

**Creating and Sustaining a Culture of Student Learning Outcome Assessment at a Small,
Liberal Arts Institution**

by

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This case study documents the use of improvement science to create and sustain an institution-wide assessment process and culture at a small, liberal arts institution in the mid-Atlantic region. The project began when the institution was put on warning with the regional accreditor (Middle States) for an inconsistent student learning outcome assessment process. In order to gain reaffirmation of accreditation, the institution needed to quickly adapt and change to comply with the educational effectiveness standard. A new process needed to be centralized, systematized, and communicated to all stakeholders at the institution.

This project chronicled the journey to reaffirmation and beyond using improvement science to fuse theories from change management, leadership, and organizational culture with assessment best practices to develop an assessment process and culture. Several projects were ongoing throughout the project with a specific test of change to pilot an assessment consultation in one academic department in order to spread and scale to other academic departments throughout the institution. The purpose of the test of change was to build assessment know-how, confidence, knowledge, and leadership. Through surveys, a focus group, and observation field notes, the project's findings show promise for future consultations with other academic departments for spread and scale throughout the institution. This will require continuous improvement of the assessment process overall and the assessment consultation specifically.

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Preface

From as early as I can remember, I have been learning. Through the love and support of my parents, Jim and Cathy; my grandparents, Pat, Eva, Paul and Kay; and my sister, Rachel, my love of learning started at home. Earning a doctorate is a testament to all the teachers in my life, from my kindergarten teacher Miss Jackie to my dissertation advisor Dr. Jean Ferketish. It is through the dedication of every single teacher, both formal and informal, that I continue to grow, remain curious, and determined to keep learning.

I want to especially thank Dr. Ferketish who mentored and pushed me to reach goals that I never dreamed imaginable for myself. Thanks also to committee members, Dr. Colleen Mayowski and Dr. John Smetanka, for their dedication and service. I could not have earned this degree without the support of my “J” colleagues, my brother-in-law, aunts, uncles, cousins, monks, and extraordinary friends who have supported me along the way.

I hope that through my example my two nieces, Eva and Adele, will never stop learning, never stop trying, never give up hope, and always give maximum effort in everything they do.
Forward!

1.0 Problem Area

Today in the United States the word accreditation often elicits eye rolls, scoffs, and other negative reactions on college and university campuses. Assessment is the other closely associated word that provokes a similar response. While accreditation may have been a relatively “gentle, collegial affair” a generation ago (Suskie, 2015, p. 3), the accountability movement is alive and well in higher education today. According to the Council for Higher Education Accreditation (CHEA), there are currently six regional accreditors in the United States – Higher Learning Commission (HLC), New England Commission on Higher Education (NECHE), Northwest Commission on Colleges and Universities (NWCCU), Southern Association on Colleges and School Commission on Colleges (SACSCOC), Middle States Commission on Higher Education (MSCHE), and WASC Senior College and University Commission (WSCUC). These agencies are member-driven, voluntary, and accredit institutions rather than programs through a peer review process. Regional accreditors are gatekeepers to federal funding responsible for quality assurance, ensuring quality improvement and transparency, and strengthening the positions of institutions while allowing them to stay true to their missions (Gaston, 2013; Middaugh, 2010; Suskie, 2015).

All regional accreditors have their own set of criteria used to evaluate effectiveness of its member institutions, but there is much commonality in the language and all accreditors emphasize the assessment and effectiveness of student learning (Middaugh, 2010). A study by the National Institute of Learning Outcomes Assessment (NILOA) found that one of the most important driving forces behind assessment of student learning is regional accreditors (Provezis, 2010).

William Rickards and Monica Stitt-Bergh summarize this assessment conundrum well. In a 2016 *New Directions for Evaluation* article they say,

Although advocates argue that faculty and campuses should conduct assessment because it is beneficial, the reality is they often conduct and report on assessment because they must do so. Regional and professional accrediting agencies require that faculty are involved in regular interpretive activities in which data on student learning are used in curriculum review and program decision making.

A quick scan of industry news outlets, such as *The Chronicle of Higher Education* and *Inside Higher Ed*, will affirm that the skepticism and criticism of both accreditors and assessment runs rampant, and perpetuates a compliance mindset and negative attitude on campuses surrounding student learning outcome (SLO) assessment. Higher education is under scrutiny for the quality of its product, but a perceived lack of transparency has not alleviated concerns from the federal government or the public in regard to quality and return on investment. Thus, for many people at American institutions accreditation and assessment feels more like bureaucratic red tape rather than a means of continuously improving educational offerings.

Many institutions of higher education struggle with the task of formalizing and systematizing the process of student learning assessment. A recent interview with a regional accreditor vice president noted that 40 percent of its membership is out of compliance with student learning assessment standards (Welsh, 2016). Michael Middaugh (2010) reports a similar scenario explaining that of the 60 percent of institutions within Middle States that are required to have a follow-up activity in a given evaluation year, approximately 80 percent of those instances are institutions who are not in full compliance with standards related to SLO assessment, institutional effectiveness assessment, and resource allocation driven by planning.

Student learning assessment has been in sharp focus for some time, yet colleges and universities continue to be challenged by the complexity and elusiveness of the process. Low

quality student learning assessment can jeopardize accreditation and it highlights tensions between the public, the federal government, accreditors, and institutions responsible for providing evidence of student learning. Margaret Spellings' (2006) groundbreaking report "A Test of Leadership" notes that college access for students has been a point of emphasis, but less attention has been paid and strategies developed to help students complete a degree and verify that students are learning. This report continues to resonate in higher education today.

Middaugh (2010) explains institutions have spent years stuck on evidence of teaching effectiveness and focused little on what students were actually learning beyond awarding a final grade. He points out that SLO assessment has been "codified into the accreditation standards of the member institutions in each of the six regional accrediting bodies across the United States" (pp. 90-91). Assessment has historically been a component of accreditation; however, shifts toward outcome assessment were occurring even in the 1990s – the release of the Spellings Report mounted pressure pushing accreditors to make outcomes the priority over previously relied upon inputs such as faculty numbers, facilities like libraries, and other processes (Baer, 2017; Spellings, 2006; Suskie, 2004; Suskie, 2015; Volkwein, 2010).

Emphasis on outcomes has been a hard change for institutions. Linda Suskie (2015) concurs with Middaugh, "Actual student learning did not factor much into this equation; the assumption was that if a college had all these inputs, well, of course learning was bound to happen" (p. 15). Therefore, accurately reporting outcomes and transparently analyzing and documenting student learning has been challenging for institutions. Many colleges and universities are still stuck on reporting inputs and building their reputation rather than focusing on analyzing student learning and transparently reporting it (Suskie, 2015).

One issue is that faculty are not often formally trained to design curricula or assessment so professional development for both faculty and administrators is crucial to establishing a sound assessment program (Diamond, 1998; Suskie, 2004). According to Suskie (2009), assessment can: help students learn more effectively, generate discussions among faculty and staff, show how courses fit together to form cohesive learning experiences, provide feedback on strengths and opportunities, prioritize resource allocation, and bring problem areas into focus.

While faculty may agree with Suskie's description of the benefits of assessment, Charlie Blaich and Kathy Wise (2011) recognize a key barrier for faculty (who are not formally trained in assessment) is that research and assessment use different processes that often conflict. They say,

The actions entailed by good research are communication with colleagues via presentations and publications and, ultimately, more research. The goal of assessment, on the other hand, is to create changes that improve student learning. Assessment also entails communication with colleagues, but the communication must at some point move from talking about the data to talking about, and then enacting, changes. Research and assessment are not just different processes; at some point the goals of each process are in opposition (p. 13).

Suskie (2015) notes that cultures of isolation, reticence, and silos as well as comfort with the status quo are additional obstacles for those in higher education to execute meaningful outcome assessment and use the information to make needed improvements.

The preceding paragraphs highlight the national tension between the federal government, the public, accreditors, and institutions, and the struggle to execute SLO assessment well. The challenges faced with successful outcome assessment development and execution nationally are

locally present at the liberal arts institution that will be the site of my organizational system-wide intervention.

1.1 Inquiry Setting and Context

My organizational improvement project setting is a small, private, liberal arts school in the mid-Atlantic region. In Fall 2019, the institution enrolled 1,560 undergraduate students and 179 graduate students. Nearly 40% of the undergraduate population are first-generation college students and 29% of the undergraduate students are Pell Grant eligible. The institution primarily enrolls in-state students mostly from two counties. Annually, just one percent of the student population are international students and approximately 22% are from out-of-state. Small School is in a particularly competitive market where there are several similar small, liberal arts institutions competing for a shrinking pool of high school graduates. Bransberger and Michelau (2016) write in the Western Interstate Commission for Higher Education (WICHE) *Knocking at the College Door* report,

By 2030, the number of high school graduates in the Northeast is projected to decrease to around 567,000 graduates. This number will represent 72,000 fewer graduates by 2030 (a decline of 11 percentage points compared to 2013) and will lead to the Northeast contributing only 16 percent of the nation's high school graduates by the early 2030s.

These population projections increase the competitive nature of the marketplace and, therefore, increase the need to continuously improve the institution and communicate value of the education it is providing to students, their parents, and the public.

In regard to academic offerings, the top undergraduate majors are: biology, criminology, psychology, management, and communication. The institution also enrolls graduate students in business, education, and health sciences. The college website boasts a 99% success rate for the 2018 graduates with 64% employed and 35% placed in graduate or professional school. As of Fall 2019, the institution employs 104 full-time faculty as defined by the Common Data Set. Of those full-time faculty, 94% hold a terminal degree. Sixty-two percent of the full-time faculty are tenured with another 16% on tenure track. The faculty are 62% male and 38% female. The student to faculty ratio is 11:1.

Within my small, private, liberal arts institution, my inquiry setting will specifically take place in the “J” Department – a pseudonym to protect the confidentiality during data collection (Durdella, 2019). The department currently includes four full-time faculty – one newly tenured, two on the tenure track, and one on a term contract. As of the Fall 2019 census, the department enrolled 82 first majors, four second majors, and 10 minors. In the 2018-19 completions cycle, 23 Bachelor of Arts degrees were awarded.

Prior to May 2018, student learning assessment was decentralized and driven primarily by faculty chairpersons within each academic department, many of whom have no formal training in curriculum design, pedagogy, or assessment. There were also faculty assessment coordinators, one for each of four schools within the institution, who were serving as leaders to support assessment activities – a loosely defined role. School deans were responsible for supporting assessment activities, allocating resources, and maintaining accountability. Each department submitted annual assessment reports to the school dean and VPAA, but minimal formal feedback was given to chairpersons and department faculty.

Few resources had been allocated to support professional development institutionally; however, the Middle States Commission on Higher Education decennial accreditation site visit exposed gaps in student learning outcome assessment resulting in non-compliance with Standard V – Educational Effectiveness Assessment – with compliance in all of the other six standards. For the non-compliance with Standard V, the institution spent a year under warning status during 2018-19.

My role, the Director of Assessment and Institutional Research (DAIR), was reestablished following the decennial accreditation visit in order to immediately centralize assessment administratively. Formerly, my role focused on institutional research and indirectly and less formally supported SLO assessment efforts. Merely adding assessment to my title does not automatically improve student learning assessment because many departments need to build capacity to plan assessment activities, collect artifacts, analyze the artifacts, and make improvements based on the analysis of SLOs being met or not. What it does do is provide a centralized office for support and oversight. Throughout this problem of practice improvement project, I am able to work intensively with the “J” Department to build capacity, develop PDSA cycles, and learn from smaller projects to scale and inform college-wide assessment.

1.2 Stakeholders

This institutional improvement project potentially affects many stakeholders with the main groups being students, faculty, and administrators. “Understanding other people’s perspectives is a central tool in a bridge building, because until you know how others see the world, you’ll have little opportunity to influence or learn from their perspective” (Garvey Berger & Johnston, 2015,

p. 22). Figure 1 is a stakeholder analysis chart adapted from the work of Heifetz, Grashow and Linsky (2009, p. 100) that allows thinking around the interconnectedness of stakeholder groups and how each group relates to and is affected by potential losses or desired outcomes of a centralized, systematized, and improved SLO assessment process.

Stakeholder	Relationship to the issue	Potential losses	Desired outcome
Students	<ul style="list-style-type: none"> • Currently eligible for federal financial aid • Enrolled at institution to receive a quality liberal arts education that leads to a meaningful career 	<ul style="list-style-type: none"> • Loss of accreditation jeopardizes federal aid • Not receiving necessary quality education to have a meaningful career 	<ul style="list-style-type: none"> • Maintaining federal financial aid • Becoming a partner in continuous improvement of the curriculum to ensure quality education for current and future students
Faculty	<ul style="list-style-type: none"> • Currently working to improve student learning outcome assessment processes 	<ul style="list-style-type: none"> • Time consuming to learn how to effectively conduct SLO assessment requires engagement and buy-in • Fear of infringement on academic freedom and shared governance • More work with no guarantee of more compensation 	<ul style="list-style-type: none"> • The development of a meaningful, manageable, and sustainable SLO assessment process • Collaboration between faculty and administration to build trust and transparency in the assessment process
Administrators (including academic affairs staff and president)	<ul style="list-style-type: none"> • Currently working to improve student learning outcome assessment processes 	<ul style="list-style-type: none"> • Failing to implement a sustainable SLO assessment process could lead to loss of accreditation, federal financial aid, and ultimately jobs • Continued follow-up reports required by accreditor that requires much extra time and resources 	<ul style="list-style-type: none"> • The development of a meaningful, manageable, and sustainable SLO assessment process • Collaboration between faculty and administration to build trust and transparency in the assessment process

Figure 1. Adapted Stakeholder Analysis Chart

1.2.1 Students

Undergraduate students (predominately white and of traditional age) rely on Title IV federal financial aid, which mandates that an institution be accredited in order to provide funding. In the 2018-19 academic year, the institution's students were awarded nearly \$2.5 million in federal financial aid therefore losing federal funding would jeopardize students' ability to finance their education. Students are also looking for an education and co-curricular experiences that are cohesive and will set them up for meaningful careers.

Bridging gaps between what kind of learning experiences students want and what kind of experiences faculty are delivering is an important balance to consider in the boundary setting of effective SLO assessment. Enabling students to have an equal part in assessment may also establish an opportunity for faculty to try some innovative teaching strategies on a small scale in order to see if a larger change could be successful. Assessments of these experiments will enable natural guiderails to be established and continuous curricular improvement to take place.

Students will provide actionable data if faculty and administrators are willing to allow them the opportunity to be heard and act in an experimental environment with the shared goal of continuous improvement. It is also important to consider the different ways in which students are socialized in their learning, particularly with the use of technology. Thus, experimenting with different uses of technology could elicit insightful safe-to-fail experiments (Garvey Berger & Johnston, 2015) because it would give faculty an opportunity to get comfortable with technology while also learning together with and from students.

1.2.2 Faculty

In many ways, the faculty are the most important stakeholder group in this improvement project to create a systematic and effective student learning outcome process. This is the group that not only will deliver the content of the curriculum but will also be instrumental in collecting student artifacts and sharing their expertise and experiences during the assessment process. It is important to note that this is also a stakeholder group that has several subgroups within it, thus the creation of a new centralized and systematized assessment process adds to the adaptive challenge.

Our faculty, I suggest like most faculty, do not like change. I liken their attitude to Snowden and Boone's (2007) notion of entrained thinking where faculty's past experience, history, and success has shielded them from new ways of thinking and enabled complacency particularly in adapting to the increased emphasis and use of assessment data. One subgroup of faculty is afraid that assessment of student learning is an individual reflection on them, and those results could influence tenure and promotion. These are elephants in the room (Heifetz et al., 2009) that faculty will not speak openly about in a larger meeting but will voice their concerns in small group meetings or one-on-one conversations. Another subgroup of faculty does not understand how to create an effective assessment process within their department and will not ask for help nor engage in professional development opportunities. Yet another subgroup feels that assessment activities impose on their academic freedom in the classroom and is not a good example of shared governance. Finally, faculty believe that assessment leads to more work with little to no additional compensation, and, therefore, resist the efforts to improve the process. These different subgroups listed are only some of the viewpoints that various segments of the faculty hold.

Paying attention to the default behaviors of faculty at our institution will be a key to implementing a successful SLO assessment process that is meaningful, manageable and

sustainable (Garvey Berger & Johnston, 2015). To truly understand the faculty's viewpoint, leaders will have to get comfortable with orchestrating conflict and holding people in a state of disequilibrium in order to offer productive thoughts for developing effective student learning outcome assessment (Heifetz et al., 2009). The assessment process has not been fully fleshed out, and stakeholders are starting to get better at collecting the right evidence and using data that currently exists in order to guide experiments for change.

As Heifetz et al. encourage viewing the system from the balcony, it seems that faculty are experiencing low morale due to the "new normal" of static budgets and a saturated marketplace competing for the institution's traditional (defined by high school graduates from western Pennsylvania) students to meet enrollment goals. It also seems faculty fear their slice in shared governance is getting smaller and less powerful, yet many are not willing to work to preserve their stake in shared governance.

The data I can provide to support this hypothesis is the observation of work avoidance when faculty are declining or shying away from committee work if it requires a significant amount of time and effort without additional compensation. The intention of these committees is often to strengthen shared governance and faculty are asked to participate so their stakeholder group has a voice in whatever decision or work lies ahead.

1.2.3 Administrators (Including Academic Affairs Staff and President)

The administration is more intimately involved with budgeting, marketing, and ensuring enrollment targets are met at the institution. Administrators tend to have more of a 10,000-foot view of the system than faculty do (Garvey Berger & Johnston, 2015). The gap between the reality

of a decreasing high school population and the faculty's expectation of enrolling the same type of students that our institution has traditionally attracted is growing.

In order for our institution, like many, to achieve our enrollment goals we must enhance our academic offerings and recruit outside of our traditional market resulting in a much different student body, demographically and academically speaking. Administrators are keenly aware of the technical aspects that a changing student demographic can have on the institution and the technical ways in which the institution needs to improve in order to serve all students. One potential improvement is collecting student artifacts that informs decision-making so the institution can meet students where they are and provide a solid educational foundation for graduates as they enter their careers.

1.3 Problem of Practice

The institution's student learning outcome assessment process was inconsistent and did not meet the regional accreditor's standards during the 2017-18 decennial visit. There are several reasons for this inconsistency including: comfort with the status quo and fear of what the assessment evidence might reveal (culture), lack of accountability (leadership), lack of a centralized assessment program (infrastructure), and faculty lack of knowledge about assessment design, planning, and execution (resources). Inconsistent assessment led to an official warning with the regional accreditor (Middle States) for non-compliance with Standard V – Educational Effectiveness Assessment during the 2018-19 academic year.

The lack of a centralized process was one reason for inconsistent assessment. Often faculty noted in annual reports that students were satisfied with the program as a result of senior exit

surveys (an indirect measure) and many departments did little to directly measure student learning. Other departments used direct measures (like standardized exams or rubrics to grade capstones) but have been satisfied with data so their data-driven decisions have been to continue to monitor measure. Middaugh (2010) suggests “no college or university can be considered effective unless it can demonstrate that its students are learning. The teaching/learning process is at the core of higher education” (p. 89).

Students finance their college education by taking on a considerable amount of debt and rely on federal funding as part of this financing. Students work to earn a college degree that will enable them to get jobs. Without the institution developing a sounder process and allocating appropriate resources to student learning assessment, in order to meet Middle States accreditation requirements, both faculty and students could be searching for other institutions.

2.0 Review of Supporting Scholarship, Professional Knowledge

In summer 2016, Barbara Johnson, a Higher Learning Commission (HLC) vice president, noted that 40 percent of the regional accreditors' institutions were not in compliance with student learning assessment standards (Welsh, 2016). The HLC region encompasses hundreds of degree-granting institutions in a 19-state region in the United States. This is just one of many examples of the mandate of student learning outcome assessment at institutions of higher education across the country. It highlights the tension between the public, regional accreditors, the federal government, and the institutions of higher education that are responsible for providing evidence of student learning. "The better the information you have and use, the higher your probability of success. Only this type of information can answer higher education's severest critics" (Diamond, 1998, p. 6).

Student learning outcome assessment has been increasingly important for some time, yet colleges and universities are still struggling with the complexity and, at times, elusiveness of the process. Faculty often are not formally trained to design curricula or assessment of the curriculum therefore professional development for both faculty and administrators is crucial to establishing a sound assessment program (Diamond, 1998; Suskie, 2004).

This literature review will provide context for why student learning outcome assessment has risen to the level of importance for a variety of stakeholders as well as explore the role that regional accreditation has played in this magnification of assessment. A broad overview of student learning outcome assessment will be provided including the tension between accountability and improvement. The complexity of assessment and the many choices to measure student learning outcome assessment are reviewed. The role that leadership and culture plays in developing

efficient and effective student learning outcome assessment is explored particularly focusing on a culture of assessment through the lenses of Edgar H. Schein, and Ronald Heifetz and colleagues.

2.1 Increased Focus on Accountability in Higher Education

In the early part of the 21st century, policymakers, the public, and other stakeholders have become increasingly skeptical of higher education. Common concerns include the production of graduates who are underprepared for the workforce, the rising cost of attending college, and the lack of soft skill acquisition, such as complex reasoning, interpersonal relations, and written and oral communication, among graduates has led many to question what is happening in American higher education (Arum & Roksa, 2011; Blumenstyk, 2015; Bok, 2006). “More than ever, a college education is seen less as a process and more as a product, a means to an end. And customers are not entirely convinced that what they are buying is worth the price” (Blumenstyk, 2015, p. 4). Accountability in higher education has been magnified over time with rising costs, diminished federal and state budgets, and increased emphasis on the return on investment for a quality education from higher education institutions (Huisman & Currie, 2004).

2.1.1 Impact of the Spellings Report

Over the last three decades, accountability has been a trend in higher education but came into sharp focus when then U.S. Secretary of Education Margaret Spellings released the groundbreaking report “A Test of Leadership” in 2006. The Spellings Report, as it is commonly known, centered on the future of higher education in the United States by discussing access, cost

and affordability, financial aid, learning, transparency and accountability, and innovation (Spellings, 2006). Although released more than a decade ago, the report still resonates today. The report noted that American higher education has been lax in responding to the needs of a 21st century workforce, rising costs, low completion rates, and an increasingly globalized and high-tech world. America's competitive advantage is dependent on an evolving, efficient, and effective system of higher education but the Spellings Report calls into question if American higher education is meeting these needs.

Spellings (2006) noted that college access for students has been a point of emphasis, but less attention has been paid and strategies developed to help students complete a degree and verify that students are learning. The report called for greater transparency and accountability among higher education institutions by broadly sharing performance indicators to ensure public trust in higher education. "To meet the challenges of the 21st century, higher education must change from a system primarily based on reputation to one based on performance" (Spellings, 2006, p. 21). The report cites declines in literacy between 1992 and 2003, and lists complaints from employers (about the lack of problem solving and critical thinking skills that college graduates possess) as examples of what is broken with higher education. The Spellings Report went so far as to offer models of student learning outcome assessments like the Collegiate Learning Assessment (CLA) and the Measure of Academic Proficiency and Progress (MAPP). The Spellings Report was especially critical of accreditation and its role in the diminished accountability among higher education institutions (Ewell, 2008).

Middaugh (2010) explains that higher education institutions have been stuck on evidence of teaching effectiveness for years and focused very little on what students were actually learning beyond the awarding of a final grade. He stated, "higher education has arrived at a point where it

acknowledges that grades are not the sole measure of student learning. A comprehensive assessment of cognitive gains among students at a college or university requires multiple measures and multiple pieces of evidence” (p. 90). Middaugh went on to point out that student learning outcome assessment has been “codified into the accreditation standards of the member institutions in each of the six regional accrediting bodies across the United States” (pp. 90-91). Assessment has historically been a component of accreditation; however, shifts toward outcome assessment were occurring in the 1990s but the release of the Spellings Report mounted pressure pushing accreditors to make outcomes the priority over previously relied upon inputs such as faculty numbers, facilities like libraries, and other processes (Baer, 2017; Spellings, 2006; Suskie, 2004; Volkwein, 2010).

Over the last several decades, regional accreditation has been the “quality assurance in American higher education and the major driver of learning outcomes assessment” (Kuh & Ikenberry, 2009, p.26). Baer (2017) recognizes the tension that accreditors face between ensuring continuous improvement in higher education and serving as an inspector of higher education. Blumenstyk (2015) concurs that accreditors are “powerful gatekeepers” that are tasked with ensuring quality education and student learning, yet accreditation is infrequently revoked rather, institutions are given time to improve almost indefinitely. The accreditation process is a way to showcase to the public how an institution uses evidence to achieve its stated outcomes and mission. “Although institutional effectiveness may be demonstrated in a variety of ways, student outcomes assessment supplies some of the most important documentation for institutions with educational missions” (Volkwein, 2010, p. 11).

In order for a college or university to administer Title IV federal financial aid it must be accredited by an agency recognized by the United States Department of Education. “Accreditation

is a process by which an institution's programs, policies, and procedures are evaluated against a set of standards established by member institutions to ensure that they are of college-level content" (Wheelan, 2017, p. 41). According to the Council for Higher Education Accreditation (2018), there are six regional accreditors covering degree-granting higher education institutions throughout the United States, which are noted early on in this overview. While there is some flexibility in the way that the standards are written, all six regional accreditors have assessments of faculty/administration, financial sustainability, curriculum, governance, and learning resources (Wheelan, 2017). Additionally, there are several other national and program-specific accrediting agencies. Caught in the tensions among stakeholders especially the federal government and the public, the debate over the quality and purpose of education rages on as "accreditors are pressing institutions to prioritize as well as mature the assessment process so that it leads to changes in pedagogy, curricular and instructional design, and educational practices" (Maki, 2010, p. 10).

2.1.2 The Debate over the Purpose of Education

Since the inception of the United States of America there have been ongoing debates about the goals of education. David Labaree (1997) highlights the conflicting goals from the perspective of three stakeholder groups, namely, citizens, taxpayers, (both public goods) and consumers (private good). He posits that these conflicting goals weaken the effectiveness of education. "More important still has been the growing domination of the social mobility goal, which has reshaped education into a commodity for the purposes of status attainment and has elevated the pursuit of credentials over the acquisition of knowledge" (Labaree, 1997, p. 39).

Spellings' (2006) criticism of higher education highlights the conflicting view of education by mentioning social mobility, but also encourages transparency for consumers, both parents and

students, in order to make an informed decision about the quality and value of higher education including the measurement of learning. Huisman and Currie (2004) note that quality assurance mechanisms have been adopted from the business sector and government to put pressure on the “efficient and effective use of public resources” (p. 531) thus contributing to the conflict between the public versus private good of education. Blumenstyk (2015) acknowledges the shift “from the importance to society of a well-rounded, college-educated populace to the personal gains of attending college” (p. 4).

Derek Bok (2006) contributes to the controversy in his book *Our Underachieving Colleges: A Candid Look at How Much Students Learn and Why They Should Be Learning More*. Bok dedicates chapters to the preparation of citizenship citing Thomas Jefferson and his philosophy that education promoted a healthy democracy (a public good) and the preparation for a global society noting preparation for a globally-connected economy and world is a vital piece of education (public good).

Bok highlights the goals of private goods when he dedicates chapters to preparing for a career (a major reason that students cite for going to college to boost their potential earnings) and improving the quality of undergraduate education for the educational consumer. “Our society is growing ever more complex, requiring greater skill and knowledge from its public servants, its professionals, its executives, and its citizens” (Bok, 2006, p. 312). He encourages higher education institutions to resist complacency and look for ways to strengthen standards to ensure students are learning appropriate skills to be successful both for the public and the private good. Baer (2017) adds, “Public higher education was built on the premise of a social compact: that is, access to college education was both a public good for society and private good for students. Access to college was seen as the gateway to quality and equality” (p. 2).

In his 2015 book *Breakpoint*, John McGee discusses the various disruptions occurring in higher education in recent years (including economic, demographic, and cultural) explaining how these changes in the marketplace shift public expectations for higher education today. He also mentions the rise of higher education attendance since the passing the Higher Education Act of 1965, the institution of the GI Bill, and the continued support of public policy as influences; however, higher education institutions “face an increasingly hard-set public perception that college is necessary but not a very good value...disconnection between perceptions of value and the price of the experience create ripe conditions for a political call to arms” (McGee, 2015, p. 97).

Currently, articles continue to be published concerning the public mistrust in higher education. In a 2018 Forbes.com article, Michael Nietzel, president emeritus of Missouri State University, cites a recent Gallup poll showing only 48% of the public have confidence (a great deal or quite a lot) in higher education. Nietzel (2018) states,

Most Americans still believe advanced education is key to their children’s prosperity, but they are growing more critical of how universities go about their business, believing they are costly and inefficient, fail too many students, spend too much money on luxuries rather than learning, coddle rather than challenge students, and tolerate one athletics scandal after another (para 4).

The Spellings Report, marketplace disruptions, public calls for transparency, rising student loan debt and the Great Recession in 2008 have culminated in pressuring regional accreditors to hold institutions more accountable for continuous improvement. As Terry Hartle (2012) noted, accreditation began as a voluntary evaluation of peer institutions to ensure quality and improvement, but now regional accreditors are pressured by policy makers and the public to ensure value, return on investment, and academic quality.

2.2 Student Learning Outcome Assessment

There are various forms of assessment in higher education – administrative, outcomes, co-curricular, etc. – but this literature review will concentrate specifically on student learning outcome assessment. Barbara Walvoord (2004) states “assessment of student learning can be defined as the systematic collection of information about student learning, using the time, knowledge, expertise, and resources available, in order to inform decisions about how to improve learning” (p. 2).

In order to understand the student learning outcome assessment in present day it is important to review the history of assessment in the United States. In Richard Shavelson, Carol Geary Schneider and Lee S. Shulman’s (2007) “A Brief History of Student Learning Assessment,” they develop a timeline in assessment history starting at the beginning of the 20th century (1900-1933) with the use of standardized, objective tests including the Pennsylvania Study in 1928. The Pennsylvania Study (an exhaustive 12-hour test) measured both achievement and learning in most areas of a college curriculum both longitudinally (the same cohort at multiple points in their education) and comparatively (different cohorts at the same points in their education). The first third of the century focused on the testing of learning and the mastery of content (Shavelson, 2007). Shavelson et al. (2007) call the era between 1933 and 1947 the Assessment of Learning in General and Graduate Education where standardized tests expanded to include major fields, general education areas, and inventories of general life goals personally, socially, and morally. During this era, the Graduate Record Examination (GRE) was developed in 1937 and used as an entry assessment to graduate school that gave institutions more of a picture of the student beyond college credits earned. This era expanded the testing of learning to include the application of knowledge, predictions based on context, and interpretation of information (Shavelson, 2007).

The period that followed (1948-78), Shavelson et al. (2007) call The Rise of Test Providers that included the commencement of ETS (Educational Testing Service) and ACT (American College Testing). There was a shift from content testing to general reasoning testing during this era. By the end of the 1970s “objective testing was not the way faculty members wanted student learning to be assessed. They were more comfortable with open-ended, holistic, problem-based assessments, which were more in tune with what they thought they were teaching” (Shavelson, 2007, p. 30). The current age Shavelson et al. (2007) call The Era of External Accountability (1979-present) where standardized tests are still used to measure proficiency and critical thinking skills with largely objective tests including assessments like Measure of Academic Proficiency and Progress (MAAP) and Collegiate Learning Assessment (CLA), which Spellings (2006) pointed to as models.

Ewell (2008) notes early adopters of student learning assessment among higher education institutions in the mid-1970s, like Alverno College and the University of Tennessee Knoxville, started student learning assessment programs and program reviews that used standardized tests and performance assessments to demonstrate mastery. In the 1970s and 1980s, states were the forces that pushed on student learning assessment by mandating standardized tests and comprehensive exams, but Ewell notes that accreditors took over much of the oversight for student learning assessment beginning in the 1990s. Shavelson et al. (2007) assert, “The history of learning assessment provides some important lessons for today: Develop and justify a conceptual framework for college outcomes and for assessing achievement and learning. Design assessment systems to collect snapshots of performance both at a single point in time (achievement) and over time (learning)” (p.23)o

2.2.1 The Tension Between Assessment for Improvement or Accountability

Peter Ewell (2008) explains there are two paradigms of assessment – one that internally looks for opportunities to improve while the other externally demonstrates value to the public, accreditors, and other stakeholders outside of the institution. The improvement paradigm is focused on enhancing teaching and learning, engaging internal stakeholders, and providing feedback to teachers and learners to aid in improvement. “Motivated by institutional curiosity, assessment will become, over time, an organic process of discovering how and what and which students learn” (Maki, 2002, p. 13). Peggy Maki (2010) notes the evolution of an institution to an inquiry and learning-centered place using evidence to make decisions and develop strategies helps to anchor assessment into the culture. The accountability paradigm is focused on compliance, standardization, and evidence of effectiveness to external constituencies particularly those that are supporting higher education with resources. Maki (2010) notes that if an institution does not take the time to reflect on assessment evidence, have conversations about what information the evidence provides, and agree upon changes then “assessment remains a mechanical process of reporting” (p. 20).

	<i>Continuous Improvement</i>	<i>Accountability</i>
Strategic Dimensions		
Purpose	Formative (improvement)	Summative (judgment)
Stance	Internal	External
Predominant ethos	Engagement	Compliance
Application choices		
Instrumentation	Multiple/triangulation	Standardized
Nature of evidence	Quantitative and qualitative	Quantitative
Reference points	Over time, comparative, established goal	Comparative or fixed standard
Communication of results	Multiple internal channels and media	Public communication
Use of results	Multiple feedback loops	Reporting

Figure 2. Paradigms of Assessment – Continuous Improvement versus Accountability

(Ewell, 2008, p. 10)

Ewell (2008) provides further detail of the differences between the improvement paradigm and the accountability paradigm in Figure 2. He notes that for the purposes of explanation, the differences are exaggerated because no assessment program is without tweaks and combined approaches. “But they do serve to lay out the fundamental tensions embedded in different ways to implement assessment” (Ewell, 2008, p. 11).

In the 2015 article “Faculty Professional Development in Student Learning Assessment: The Assessment Leadership Institute” Ellis et al. agree with Ewell and Maki and identify faculty’s accountability view of assessment as a challenge to developing an assessment culture that is focused on improving teaching and learning. “The fact of accountability in the United States changed over time...The reasons for the change lie significantly in the fact that the costs of higher education grew enormously with consequences for national and state budgets and the general public’s view that higher education was not delivering value for the money” (Huisman & Currie, 2004, p. 535).

Maki (2002) states that a periodic approach to assessment is spurred by the external forces of accreditation and happens inconsistently; whereas, an improvement and institutional curiosity approach prompts consistent and internally-motivated assessment. “Driven solely by external forces, such as legislators or accreditors, assessment probably resides on the margins of our institutions, eliciting periodic attention. This peripheral location divorces us from our institutional missions and values and the educational practices that translate our intentions into multiple contexts for learning” (Maki, 2010, p. 29). Charles Blaich and Kathleen Wise (2018) add that there is a pervasive nature of student learning assessment over the last decade (scope), but it has more to do with the pressure from accreditors and less to do with campus cultures of continuous improvement. Blaich and Wise go on to talk about cost and speed along with scope that completes the iron triangle of assessment so often forcing institutions to pick two of the three, which generally includes cost and scope as per accreditors. Blaich and Wise (2018, p. 74) provide the conceptual tool (Figure 3) below to demonstrate their thought.

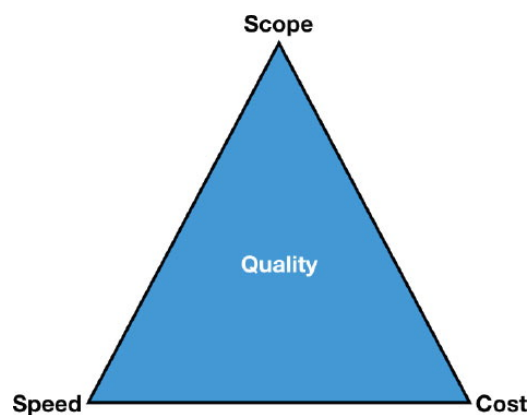


Figure 3. A Conceptual Tool That Demonstrates That Quality Must Have Scope, Speed, and Cost

One cannot be sacrificed in favor of the others. (Blaich & Wise, 2018, p. 74).

Maki (2010) highlights communication as a lever to sustainability contributing to the quality of assessment efforts but it takes time. “Assessment is certain to fail if an institution does not develop channels that communicate assessment interpretations and proposed changes to its centers of institutional decision making, planning, and budgeting” (Maki, 2002, p. 13). She emphasizes leveraging existing and new relationships and using different avenues of communication among and across departments beyond just academic departments including student affairs, academic affairs, student support services, and the library (Maki, 2010). “Dialogue that focuses on teaching and learning is the necessary professional context within which the assessment process develops and matures” (Maki, 2010, p. 29). Blaich and Wise’s (2018) iron triangle visual tool is a reminder of the constraints that one area has on the other, which is why finding the balance is important. Additionally, they argue that accreditors constrain schools into operating under the accountability paradigm when issuing a warning particularly on assessment of student learning.

Too often, such warnings lead to an all-hands-on-deck response – one which trades speed for quality. As the Iron Triangle tells us, if you try to complete big projects on a short timeline with limited resources, quality inevitably suffers. And worse, externally-driven, breakneck efforts to “fix” assessment programs can reinforce the idea among faculty and staff that assessment is nothing more than make-work imposed by outsiders who are hostile to their work (Blaich & Wise, 2018, p. 75).

Blaich and Wise (2018) rightly point out that the complexity and multi-step processes of student learning assessment done well takes time therefore focusing on the improvement of teaching and learning is critical to executing a successful assessment program.

2.2.2 Defining and Executing Student Learning Outcome Assessment

Assessment includes several components including setting goals and objectives, providing opportunities for students to learn, planning, measuring student learning, and analyzing results in order to make improvements or closing the loop (Maki, 2002; Maki, 2010; Palomba & Banta, 1999; Suskie, 2004). Suskie (2004) suggests the push for student learning assessment is not a trend that will fade nor should it. Assessment ensures that teaching and learning is improving at higher education institutions beyond just meeting externally imposed mandates.

Student learning assessment can be measured at multiple levels including institutionally, programmatically within specific disciplines, and in cross-curricular general education requirements (Maki, 2002; Maki, 2010; Middaugh, 2010; Palomba & Banta, 1999; Walvoord, 2004). Another important level of assessment is in the classroom. Angelo and Cross (1993) make the point that of all the diverse institutions and missions throughout the United States, all institutions are united by the goal to foster high-quality student learning.

Additionally, there are many other options and possibilities to execute student learning assessment including embedded assessments, add-on assessments, objective assessments, subjective assessments, performance assessments, and qualitative and quantitative assessments all of which can often overwhelm faculty and practitioners alike. Blaich and Wise (2018) state that they want to be clear that “quality assessment (1) uses evidence to determine what students are and are not learning: (2) ensures that the factors that benefit learning are maintained while implementing changes that might shore up areas where student learning falls short: and finally, (3) tests whether or not those changes led to improvements in student learning” (p. 76). Assessment is complex and there are vast opportunities to find the appropriate strategies to fit the needs of each institution.

No matter how the institution strategizes, one of the first steps in assessing student learning is establishing a plan. At any level setting learning goals, objectives, or outcomes – these terms are often used interchangeably depending upon the institution and its agreed-upon use of assessment language – help to jumpstart the planning. Many student learning outcomes (SLOs) use Bloom’s Taxonomy as a basis for scaffolding learning and are intentional about the use of specific and measurable action verbs (Diamond, 1998; Palomba & Banta, 1999). It is also important to note that student learning outcomes should be informed by and be true to the institution’s mission.

Next, developing sufficient learning opportunities for students is essential. Suskie (2004) promotes intentionality in helping students learn lessons and skills that will be assessed. “Because each assessment technique is imperfect and has inherent strengths and weaknesses, collect more than one kind of evidence of what students have learned” (Suskie, 2004, p. 20). Maki (2010) echoes Suskie when she says, “the limitations of one method stimulate the design or selection of other methods that altogether capture the dimensions of learning” (p. 156). Next, deciding between direct and indirect measures is important. According to Walvoord (2004) direct measures must include student performance, specific criteria by which to evaluate that performance, an analysis of the results, and a way to communicate the results to appropriate constituencies such as faculty, students, and administration. Direct measures can include a variety of student artifacts including papers, presentations, exams, portfolios, and the use of rubrics to grade artifacts. Blach and Wise (2018) state that direct measures, particularly the collection and assessment of student work, are preferred but labor intensive at a time when faculty are often asked to do more with less.

According to Suskie (2004) and Maki (2010) indirect measures are signals of what the students have learned, but do not measure performance and are less clear than direct measures.

Indirect measures can include retention and graduation rates, job placements, career development, student evaluations, alumni surveys, course grades, assignment grades without a rubric or scoring criteria, student activities, and teaching strategies (Maki, 2010; Suskie, 2004; Walvoord, 2004).

As stated above, using a combination of measures to corroborate student learning is the most effective way to assess and use the evidence gathered to drive decision making at the program level and can also inform institutional goals. A cycle of assessment and timelines should be established to guide the assessment efforts.

Operating without a plan and assessing too many SLOs at once will undoubtedly become an unmanageable task and negatively impact the buy-in of the faculty and administrators (Maki, 2002). Additionally, care must be taken as an institution designs and develops an assessment program by ensuring the organization's assessment literacy (Bearman, Dawson, Boud, Bennett, Hall, & Malloy, 2016). Bearman et al. (2016) state that institutions should focus on closing the gap between how educators conceptualize good assessment and how they execute those assessment strategies.

After student artifacts have been collected and measurements taken, faculty within the academic department should have a conversation about what the data are telling them about the achievement of student learning outcomes (Maki, 2010). Summarizing results and analyzing the effectiveness of assessment strategies is an important factor in good assessment practices and departmental conversation (Maki, 2010; Suskie, 2004).

Middaugh (2010) notes that internal audiences should focus on direct measures of student learning particularly exams, papers, projects, and laboratory reports. These data should drive decision making about learning opportunities, pedagogies, and curricular change. Middaugh continues that external audiences will want a more aggregated approach to assessment data often

looking to indirect measures even though accreditors are ensuring the student learning outcome assessment process is sound and adequately incorporating both direct and indirect measures. How an institution communicates these results is an important aspect in assessment (Maki, 2010).

Results of assessment may lead to changes in pedagogy, changes in the curriculum, or changes in regard to retention efforts. Schoepp and Tezcan-Unal (2017) state that even harder than executing good assessment is using the evidence to agree upon changes, execute the changes, and measure if those changes made an impact in the gap that was identified. This process is often referred to as closing the loop.

Blaich and Wise (2011) agree the real challenge of assessment is how institutions use the evidence they have collected to improve student learning. Furthermore, Blaich and Wise (2018) posit that the cost, speed, and scope equation that relates to student learning assessment must change because the current pick two method promotes the generation of reports and diminishes the importance and feasibility of the improvement of student learning.

2.3 Leadership and Culture of Assessment

Institutions can follow all the best practices of student learning outcome assessment, deploy resources to assessment, and maintain accreditation; however, without the sustained commitment of leaders and the creation of a strong supportive culture, all these efforts will be for naught. In other words, if institutions want assessment to become a way of life, paying attention to and thinking about culture is an important piece.

Edgar H. Schein (2017) offers a dynamic definition of culture (p. 6):

The culture of a group can be defined as the accumulated shared learning of that group as it solves its problems of external adaptation and internal integration; which has worked well enough to be valid and, therefore, to be taught to new members as the correct way to perceive, think, feel, and behave in relation to those problems. This accumulated learning is a pattern or system of beliefs, values, and behavioral norms that come to be taken for granted as basic assumptions and eventually drop out of awareness.

Schein (2017) goes on to say that culture is something that is observable noting “you, as an observer, will be able to see and feel those cultural elements when you observe an organization or group” (p. 3). Schein lists the following as elements of culture (p. 3-5): 1) observed behavioral regularities when people interact; 2) climate; 3) formal rituals and celebrations; 4) espoused values; 5) formal philosophy; 6) group norms; 7) rules of the game; 8) identity and images of self; 9) embedded skills; 10) habits of thinking, mental models, or linguistic paradigms; 11) shared meanings; and 12) “root metaphors” or integrating symbols.

In terms of assessment, an observer can learn about an institution’s culture by taking note of some of these cultural elements. For instance, looking for what kind of rituals or celebrations surround the completion of an assessment cycle or the way in which academic departments mark the use of data to improve teaching and learning will indicate how people value results. Likewise, observing how newcomers are introduced to the institution’s culture of assessment in the day-to-day processes and overall plan to execute assessment will indicate the strength of a culture of assessment. If established members of the culture present assessment as just another task that has to be done then newcomers will adopt the same attitude; whereas, if an established member is enthusiastic about the continuous improvement of teaching and learning then newcomers will likely adopt a similar attitude.

Culture, therefore, is the job of leadership. “Leadership is the key to learning. Learning occurs when something expected is not happening and the individual or the group feels hungry, hurt, disappointed, or in some other way ‘disconfirmed’” (Schein, 2017, p. 14). “One of the most decisive functions of leadership is the creation, the management, and sometimes even the destruction of culture” (Schein, 1992, p. 5). In order for a leader to deliver a message to the organization, he or she needs to take steps to embed the culture through what Schein (2017) notes to be primary and secondary embedding mechanisms.

“[Primary mechanisms] are major ‘tools’ that leaders have available to them to teach their organizations how to perceive, think, feel, and behave based on their own conscious and unconscious convictions” (Schein, 2017, p. 183). How leaders choose to allocate resources to assessment is a primary mechanism to embed culture. If resources are increased for assessment projects the institution will interpret assessment as something that the leader values. Similarly, if an annual award is given to a person in the organization who has dedicated significant time and energy to assessment that is a signal to the rest of the institution that the leader places importance on assessment.

“Secondary mechanisms [design, structure, architecture, rituals, stories, and formal statements] can be thought of as cultural artifacts that are highly visible but may be difficult to interpret without insider knowledge obtained from observing leaders’ actual behaviors” (Schein, 2017, p. 196). An example of a secondary mechanism would be if the leader of the institution moves the assessment office from a prime spot on campus to the basement of a less-than-desirable building. The institution will observe this relocation as a signal that assessment is not important. Secondary mechanisms are “less powerful, more ambiguous, and more difficult to control the

messages embedded” (Schein, 2017, p. 205). Culture and leadership are complex so if an institution wants assessment to stick it needs to pay attention to these important aspects.

2.3.1 Exploration of Leadership and Culture of Assessment

Schein (2017) states, “If we are talking about culture formation, learning occurs through the leadership of a founder or entrepreneur who uses his or her personal power to demand some new behavior directed toward achieving some purpose” (p. 14). He views leadership as a behavior of learning either something new or ending something that is incorrect. Furthermore, Schein (2017) states that starting the plans for change involve the acknowledgement that there is a problem or something that is unexpected. Sometimes a crisis leads to this step (Kotter, 2012; Schein, 2017). Schein’s descriptions of leadership and culture naturally fit into the development and maintenance of a culture of assessment starting with the institution’s top leadership.

Schein (2017) encourages leaders to be cautious about how to approach a culture change and specifically warns against identifying a project or initiative as a “culture change.” Rather, leaders should be clear about the goals of an initiative like student learning outcome assessment. He goes on to discuss how the habits of the organization may be painful to “unlearn” but finding success in new behaviors will be a key to success. Schein draws on Kurt Lewin’s work with social psychology and action research referencing his change management model to unfreeze, change, and refreeze. Because of the complex nature of organizations, the cycle of change is perpetual where “new beliefs, values, and behavior have to be thought of as ‘adaptive moves’ rather than ‘solutions’ to problems” (Schein, 2017, p. 339). The cycle of assessment is also perpetual, and leadership is critical to evolving the iterative nature of the assessment process.

Figure 4 shows how Schein (2017) builds on Lewin's framework of change management by offering stages and cycle of learning/change.

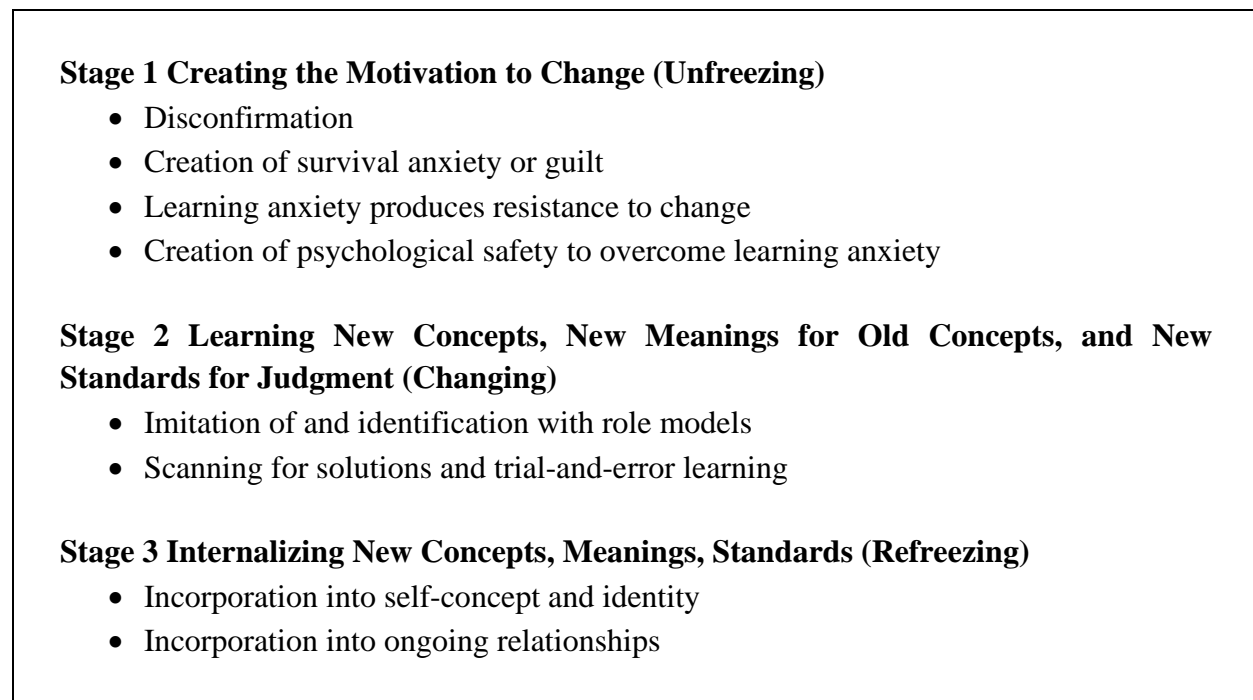


Figure 4. Stages and Cycle of Learning/Change

(Schein, 2017, p. 323)

Ronald Heifetz, Alexander Grashow, and Marty Linsky (2009) define leadership even more specifically stating that “adaptive leadership is an approach to making progress on the most important challenges you face in your piece and part of the world, presumably in your professional life but perhaps in your personal life as well” (p. 3). Heifetz et al. organize leadership into processes of diagnosing a problem and then taking action. Heifetz and Linsky (2002) define a problem two ways: one that is technical and one that is an adaptive challenge. Technical problems have clear and already-established solutions that need to be executed to rectify the problem. Some could mistake assessment as a technical problem when executing the process in order to achieve

compliance, be accredited, and validate its value with external stakeholders much as Ewell (2008) describes assessment through the lens of the accountability paradigm.

Adaptive challenges are not well defined and “require experiments, new discoveries, and adjustments from numerous places in the organization or community. Without learning new ways – changing attitudes, values, and behaviors – people cannot make the adaptive leap necessary to thrive in the new environment” (Heifetz & Linsky, 2002, p. 13). Ewell’s (2008) description of an improvement paradigm is more akin to adaptive challenges where there is a continuous improvement approach to ever-changing aspects of the process. One of the biggest mistakes that leaders in organizations make is trying to apply a technical solution to an adaptive challenge (Heifetz & Linsky, 2002; Heifetz et al., 2009). Correctly identifying the differences between technical solutions and adaptive challenges in the assessment of student learning is a key factor to consider. An example of an adaptive challenge is the emotion that faculty may demonstrate because they are afraid of what assessment results may say about them individually.

Linda Randall and Lori Coakley (2007) recognized the value in Heifetz et al.’s (2009) application of adaptive leadership in higher education. When faced with multiple adaptive challenges at a college or university, in a change topic like student learning outcome assessment, it is better to engage all stakeholders’ expertise, attitudes, and behaviors to work toward a solution. This approach is very much in line with many American institutions’ models of shared governance, which Steve Bahls (2015) describes as the alignment of faculty, administration, and the board of trustees to make decisions and unify behind one direction from which to push the institution forward. An institution’s SLO assessment will require a unified direction. The adaptive leadership process “can provide a set of guidelines that will enable leaders to know when and how to address the increased demand to be accountable, competitive, and financially viable in today’s academic

environment, while fostering sustainable and successful modifications in the relationship between the organization and its stakeholders” (Randall & Coakley, 2007, p. 335).

Also influenced by their work, Jennifer Garvey Berger and Keith Johnston (2015) use Heifetz et al.’s idea of adaptive change to provide guides to navigate complex times in an organization. Garvey Berger and Johnston offer these recommendations for leaders: differentiate between what is predictable in the situation and what is not; create an environment where feedback and learning are key to what needs to change; provide guiderails in the situation and give a clear direction; be in the moment and look for attractors; develop experiments and learn from them; clear communication in uncertainty is vital; and above all develop a mindset of growth and development. These tips are useful when developing a culture of assessment at an institution of higher education.

2.4 A Culture of Assessment

Suskie (2004) notes that assessment often has negative connotations at many higher education institutions, and she encourages language focusing on the improvement of teaching and learning instead. In her view, assessment is a way of life at a college or university when it has invested campus leadership, has broad interest in assessment across campus, is highly communicative about assessment, encourages risk-taking and a sense of community, and has resources and incentives to support the efforts of assessment. Abdou Ndoeye and Michele Parker (2010) echo Suskie by reporting that successful cultures of assessment at colleges and universities are internally driven, focus on improvement rather than accreditation, and organically develop professional development opportunities and measurements to achieve outcomes.

Walvoord (2004) counters the characteristics of a culture of assessment by identifying pitfalls including viewing assessment as compliance, discouraging faculty input thus encouraging resistance to the process, gathering data then not using it, making assessment purely an administrator task, and creating a cumbersome process of assessment. Some faculty argue that student learning assessment is a violation of academic freedom – so involving faculty in the process of developing the assessment program, particularly the learning outcomes of an academic program, is a way to provide faculty with the ownership and flexibility to make the program organic (Ellis et al., 2015; Suskie, 2004). Turning to Heifetz et al. (2009), involving faculty is a technical problem with a technical solution. In other words, involving faculty just to check the box that faculty are involved is technical; however, taking the time to build alliances with faculty to do quality assessment work is an adaptive solution.

As evidenced earlier in this literature review, there are books, articles, and a plethora of strategies to implement an assessment program, but creating an institutional culture of assessment has multiple adaptive challenges. There is no one-size-fits-all strategy to develop a culture of assessment, which is why leadership and organizational culture are so critical to success. Lakos and Phipps (2004) describe an environment that uses research, data, and analysis to drive decisions to maximize positive outcomes for its stakeholders as a culture of assessment. Creating a culture of assessment is a complex situation with multiple adaptive challenges.

In order to navigate the complexity of a culture of assessment, David Snowden and Mary Boone (2007) offer the Cynefin framework as a way to lead with new and different approaches grounded in complexity science. “The framework sorts the issues facing leaders into five contexts defined by the nature of the relationship between cause and effect. Four of these – simple, complicated, complex, and chaotic – require leaders to diagnose situations and to act in

contextually appropriate ways. The fifth – disorder – applies when it is unclear which of the other four contexts is predominant” (Snowden & Boone, 2007, p. 70). For instance, an institution could live in the simple, ordered domain, find success, and become complacent in their assessment program; however, an accreditation visit that finds the institution to be below standard in assessment could throw the institution into an unordered state and its leadership into the domain of chaos. Snowden and Boone’s (2007, p.72) Figure 5 gives visual context:

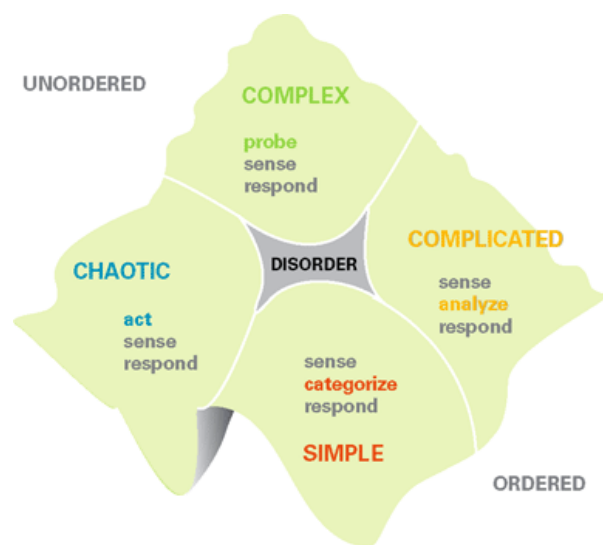


Figure 5. The Cynefin Framework Offers Five Contexts of Cause and Effect Relationships
(Snowden & Boone, 2007, p. 72).

Snowden and Boone’s point is that good leaders are individually open minded to change even though few leaders are able to navigate all of these domains effectively. “[Leaders need] a deep understanding of context, the ability to embrace complexity and paradox, and a willingness to flexibly change leadership style will be required for leaders who want to make things happen in a time of increasing uncertainty” (Snowden & Boone, 2007, p. 76). In the context of student

learning outcome assessment, which can lead to great uncertainty, the Cynefin framework is especially helpful.

“Developing a culture of assessment is about learning how to learn” (Lakos & Phipps, 2004, p. 359). Ndoye and Parker (2010) agree noting that innovation is a good strategy to collaborate with colleagues, learn from successes and failures, and encourage comfort with risk-taking. “A critical component is moving from data to action” (Baer, 2017, p. 13). A classic in the field, Chris Argyris’ 1991 article “Teaching Smart People How to Learn” suggests people define learning as merely problem solving thus missing the opportunity to reflect and critically look at how our own behaviors may contribute to problems. He contends that many smart people are so successful they have missed the opportunity to learn from failures.

If asking the question “what are my students learning?” Pat Hutchings (2010) answers that faculty are the only members of an institution who can effectively answer the question. This cements the importance of faculty involvement in student learning outcome assessment particularly conducted within the classroom. “Assessment’s power to prompt collective faculty conversation about purposes, often for the first time; about discovering the need to be more explicit about goals for student learning; about finding better ways to know whether those goals are being met; and about shaping and sharing feedback that can strengthen student learning” (Hutchings, 2010, p.7) demonstrate the essence of why faculty involvement is so important in developing a culture of assessment.

2.5 Conclusion

Assessment is a driving force of continuous improvement in teaching and student learning in higher education. Educational institutions have used assessment since 1900 and assessment has evolved over time to encompass new and different ways of measuring students' achievement and learning. Accountability has been a growing trend in higher education for more than a decade, particularly after the groundbreaking Spellings Report in 2006. In present day, external stakeholders continue to push on institutions to make known their assessment evidence to prove that education is worth the investment and students are equipped with appropriate 21st century workforce skills. Often this accountability mandate leads institutions to fall into a compliance mindset or to mistakenly only complete assessment tasks for the purposes of accreditation.

However, in order for institutions to have assessment rooted in the culture, leaders play a key role. Leaders must be vigilant and adaptive by making observable decisions that place value on assessment, thus nurturing an improvement mindset. For instance, leaders who re-allocate resources, celebrate evidence-based decisions and improvements, and reward the work of faculty and staff who perform assessment tasks show the institution what the leader values. By using the work of Schein (2017) and Heifetz et al. (2009) to observe the culture, respond to adaptive challenges, and offer solutions, institutions will be able to embed assessment into the culture of everyday life in a way that is permanent and necessary. Shifting the culture to adopt an improvement mindset ensures that the institution is committed to the enhancement of teaching and student learning.

3.0 The Improvement Journey

My institution, to which I will refer as Small School, spent a year under warning status with the Middle States Commission on Higher Education (Middle States) for non-compliance with Standard V: Educational Effectiveness Assessment during 2018-19. Middle States Standard V states: “assessment of student learning and achievement demonstrates that the institution’s students have accomplished educational goals consistent with their programs of study, degree level, the institution’s mission, and appropriate expectations for institutions of higher education” (n.d.). Small School inconsistently demonstrated its achievement of the standard and needed to quickly change.

This Middle States warning occurred at the point in my doctoral study when there was a significant need in my organization for improvement. It seemed a natural fit to integrate my doctoral and professional work to develop an organizational improvement intervention to cultivate a new student learning outcome (SLO) assessment culture and improve processes and procedures, especially given my new appointment as Director of Assessment and Institutional Research (DAIR). Institutionalizing and nurturing a culture of student learning outcome assessment remains my highest priority. Rick Mintrop (2016) defines a problem of practice as “a problem for which a remedy is urgently sought that can be locally implemented” (p. 23). My problem of practice improvement project has been on-going since the Middle States action and this dissertation documents the process from the beginning. And while my project for this dissertation documents a specific Test of Change (a pilot assessment consultation within one department of the institution), the entirety of the work fits together in complex, iterative ways and is important to not only provide substantial context, but also enable the reader to see the complexity in implementing a major

change and getting it to a point of sustainability. This work evolves, reinforcing learning as it goes on and contributed to the re-affirmation of accreditation at the conclusion of the 2018-19 academic year. This work will continue into the foreseeable future beyond the scope of this dissertation.

In the following sections I will outline some of the changes and improvements that have occurred to date and jump into the process at its current point to describe my findings during my Test of Change – to pilot an assessment consultation as part of my doctoral study. Interwoven in the activities have been many tools, new knowledge, and adaptive leadership skills that I have learned and practiced throughout my doctoral work.

This is a project that I would be doing in my place of practice regardless of this dissertation so having the opportunity to add models and tools to do this work is exciting. Not unlike change initiatives in other organizations, it is important to note that this change effort is highly complex and is often fluid. Being willing to adapt at any moment is crucial to cultural change. Kotter (2012, p. 27) aptly summarizes the current state of my problem of practice,

Most major change initiatives are made up of a number of smaller projects that also tend to go through the multistep process. So at any one time, you might be halfway through the overall effort, finished with a few of the smaller pieces, and just beginning other projects. The net effect is like wheels within wheels.

I will describe the “wheels within the wheels” of SLO assessment and how projects fit together to form this complex and evolving assessment culture at Small School.

In a year’s time, much work was invested to revise and improve the infrastructure for SLO assessment to make it centralized, systematized, documented, and communicated to all stakeholders within the institution and externally to the Middle States Commission on Higher

Education. As Schein (2017) and Kotter (2012) agree there is nothing like a major incident or scandal to prompt urgent change within an organization – the challenge is getting it to stick.

3.1 Name and Frame the Problem

I used improvement science as the base model to approach my improvement project. Bryk, Gomez, Grunow & LeMahieu's (2017, p. 197) glossary definition of improvement science is "the methodology that disciplines inquiries to improve practice. Understanding it is an epistemology of what we need to know to improve practice and how we may come to know it." Additionally, I intertwined the models of Kotter's (2012) eight-stage process of creating major change and Heifetz, Grashow & Linsky's (2009) practices of adaptive leadership into my improvement project. The models mentioned here are present throughout the improvement journey and are not exclusive to the first step in the journey.

3.1.1 Using Improvement Science

There are six principles that guide improvement science, namely, 1) organizing work around a user-centered, specific problem; 2) paying attention to variation in performance; 3) seeing the system producing the current outcomes; 4) establishing aims and measures to scale the improvement; 5) using disciplined inquiry to drive improvement; and 6) accelerating learning through networked communities (Bryk et al., 2017). Bryk et al. go on to say, "To be clear, the main point in starting small is to organize a process so that improvers can systematically learn by doing. The essential feature is carrying out iterative cycles of change" (p. 205).

I will apply the University of Pittsburgh's adapted four-step model to: 1) Name and Frame the Problem; 2) develop a Theory of Action; 3) Test of Change; and 4) Spread the Change in order to guide my project (see Figure 6). Establishing better centralized, institution-wide assessment is the focus of my improvement project and the pilot effort to develop an assessment consultation in one department is my Test of Change.

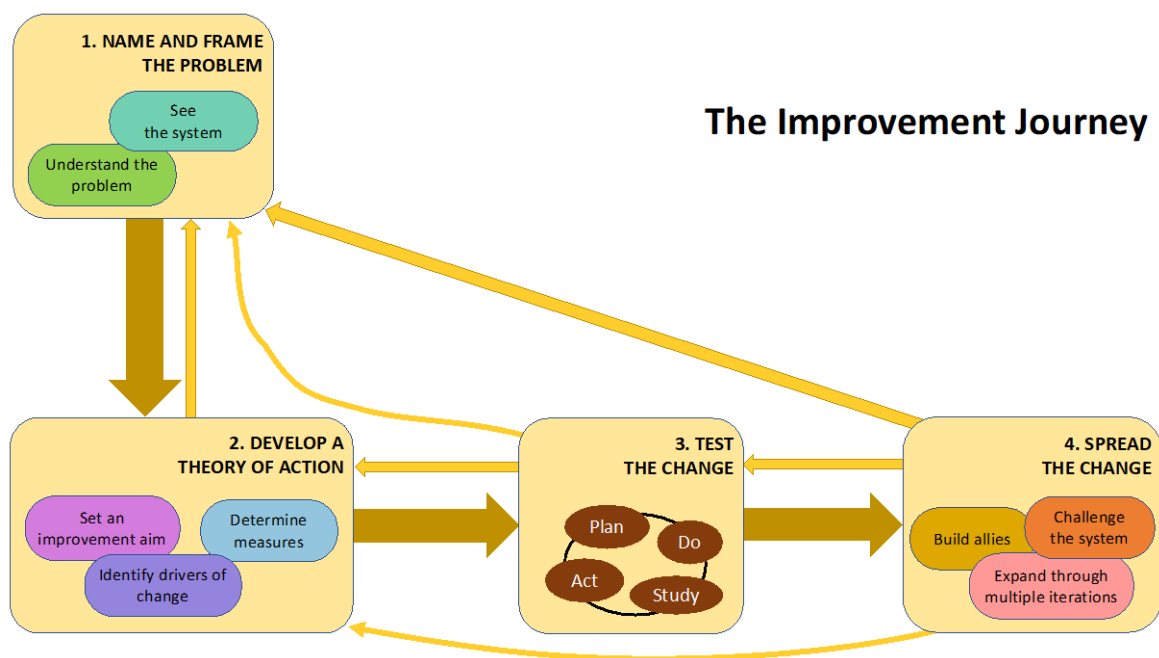


Figure 6. The University of Pittsburgh's Four-step Model for Improvement Science

As you can see in Figure 6, the process is never linear because improvers are learning by doing and are rarely following a lockstep process that requires the completion of one step before moving on to another. It does require that these steps are completed in the sequential order shown. As new data are gathered, it often prompts an improver to take a step back providing the flexibility for revision of the direction based on learning.

In some cases, the starting point is not at number one either, which is the case in my improvement project. The model respects the complexity of improvement efforts and gives improvers the freedom to adapt and revisit steps on their improvement journey while at the same time bringing discipline to the overall change. An improvement may start in the middle in order to bring clarity to the problem. Yet the model guides the improver to circle back, assuring the problem is thoroughly assessed. This document will demonstrate how this was true for my problem of practice.

Catherine Lewis (2015) notes that improvement science can be used at various levels within a system (whether that be a single department, a grouping of departments, the whole organization, or a group of organizations) and it capitalizes on variation within the system or groups of systems to learn from and restructure interventions to improve the system. Small School is going through the improvement journey as a whole, yet each academic department is simultaneously going through its own journey. Throughout my work since taking over as the Director of Assessment and Institutional Research at Small School, it is apparent that there is much variation across the institution and sometimes even within a department. My Test of Change pilot assessment consultation uncovered this variation during my work with faculty. There were varying levels of engagement and enthusiasm for the project – from very engaged to barely engaged. Looking back to the review of supporting scholarship and professional knowledge, this observation reminded me of Ewell's (2008) paradigms – assessment for continuous improvement versus assessment for compliance. My field notes, survey and focus group data reinforced that the compliance mindset still exists with some faculty members while the others lean more heavily toward the value of continuous improvement.

Bryk (2015) points to the development of “the know-how necessary to make things better” (p.475) and Shakman, Bailey, and Breslow (2017) note that taking advantage of collective will, clearly defined ideas, and capacity to execute innovations will help with broader implementation throughout the institution. To take advantage of engagement and collective will within one department, I relied on *Plan-Do-Study-Act* (PDSA) cycles as my preferred tool of improvement. As shown in Figure 7, this tool has four steps that are often rapidly repeated several times as new questions arise and new predictions are made (Bryk et al., 2017, p. 122).

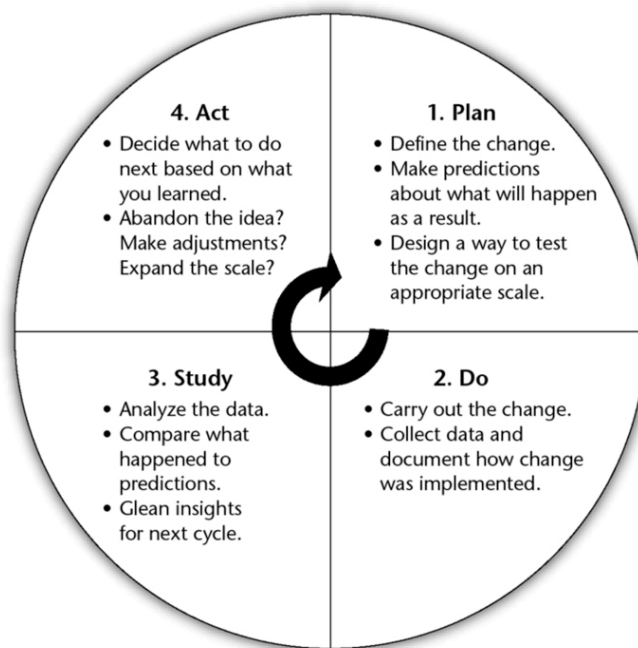


Figure 7. The Plan-Do-Study-Act (PDSA) is a Tool Used in Improvement Science

(Bryk et al., 2017, p. 122)

3.1.2 Managing Change – Kotter’s Eight-Stage Process of Creating Major Change

Realizing that improvement science is complimented by John Kotter’s (2012) eight-step process in creating change helped to frame my problem of practice as I describe the development of my Theory of Action from understanding the problem to seeing the system to planning for the Test of Change. The steps include: 1) establishing a sense of urgency; 2) creating the guiding coalition; 3) developing a vision and strategy; 4) communicating the change vision; 5) empowering broad-based action; 6) generating short-term wins; 7) consolidating gains and producing more change; and 8) anchoring new approaches in the culture (Kotter, 2012, p. 23). As mentioned above, urgency, in the form of the accreditation warning (step 1), was established for Small School. The crisis unified the institution to work collaboratively within the 2018-19 academic year to gain reaffirmation of accreditation.

Now that the institution has been reaffirmed by Middle States the urgency has suddenly disappeared. The lack of urgency sometimes leads to colleagues’ complacency; however, reminding colleagues of the year on warning usually helps to get people back into minimal compliance. The challenge remains to shift the culture from the compliance mindset to continuous improvement mindset. Again, my Test of Change looks at this pilot assessment consultation to be a tool to better engage and infuse assessment as a means of continuous improvement throughout the institution. It is a more individualized approach in order to be more inclusive to all faculty to meet them where they are on their assessment journey.

3.1.3 Leading in Complexity – Heifetz, Grashow & Linsky’s Practice of Adaptive Leadership

Further supplementing the models of improvement science and Kotter’s eight stages of change, Heifetz et al. (2009) view leadership as having “two core processes: diagnosis first and then action” (p. 6). They define adaptive leadership as “the activity of mobilizing adaptive work” (p. 303). Adaptive work is helping people within the organization stay in a period of uncertainty to discover what values from the past they should preserve and identify new ways the organization can thrive. Heifetz et al. also talk about adaptive challenges defined as “the gap between the values people stand for (that constitute thriving) and the reality that they face (their current lack of capacity to realize those values in their environment)” (p. 303).

They go on to explain that adaptive challenges are usually associated with some shift in the organization that requires a complex response and is grounded in people’s values, beliefs, and loyalties, very much aligned with the thinking of Kotter (2012) and Schein (2017). Heifetz et al. (2009) list four main adaptive challenge archetypes including 1) gap between espoused values and behavior; 2) competing commitments; 3) speaking the unspeakable; and 4) work avoidance that I noticed during my work executing this project (pp. 78-84).

3.2 Understand the Problem: Gathering Multiple Perspectives

In one regard, the understanding of the problem was simple – the institution did not achieve reaffirmation of accreditation by Middle States. Small School had to act fast in order to start the work of improving SLO assessment. But after that simple understanding – Middle States warning – identifying the reasons why SLO assessment was noticeably inconsistent added many layers of

complexity to the simple understanding that the institution's accreditation was not reaffirmed. As I continue to learn in my role as Director of Assessment and Institutional Research, I gather multiple perspectives and data to inform future improvements. There were several organizational structures that produced the inconsistency of SLO assessment, but there was also individual resistance to change and fear of the unknown. Some of this resistance and fear continues even today.

As demonstrated by Figure 6, many activities throughout the past two years were closely connected making it difficult to present the sequence of events in a linear way. Figure 8 is an excerpt of a table found in Appendix A that organizes activities in a timeline according to month (first column) linking each activity/event/action (second column) to a step in the improvement journey (third column) as well as a step in the Kotter (2012) model (fourth column).

Figure 8 demonstrates the non-linear nature of the implementation while still staying true to the full use of the models allowing for thorough implementation of the change. While the months and events are occurring chronologically (left two columns), the improvement journey and Kotter columns show how the process is full of iterations, jumping ahead and backward, as data are collected, and new experiments are happening. For example, you will notice that in the first four rows the activities jump back and forth between the first three steps on the improvement journey. Hence, the reason why Kotter's (2012) "wheels within wheels" is so appropriate for this improvement journey.

Month	Activity/Event/Action	Improvement Journey	Kotter (2012)
March 2018	Middle States warning	Name and frame the problem	Step 1 – urgency
May 2018	DAIR position re-established	Develop a Theory of Action	Step 2 – guiding team
May 2018	Published Assessment Guide	Develop a Theory of Action; Test of Change	Step 3 – develop vision and strategy
May 2018	Established assessment committee	Name and Frame the Problem	Step 2 – guiding team
August 2018	Changed deadline for assessment reports	Develop a Theory of Action; Test of Change	Step – 5 – empowering action, removing obstacles
August 2018	Deans/chairs presentation	Name and Frame the Problem	Step 3 – develop vision and strategy; Step 4 – communicate the vision

Figure 8. Excerpt of Timeline of Events Outlining Improvement Journey & Kotter’s Model

As a way to think about my improvement project and respect the complexity of it, I use a driver diagram (Figure 9) to aid in understanding the organization of the 2018-19 activities. Details are shared in regard to primary drivers, secondary drivers, and change ideas working together to achieve the aim. These drivers overlap and include several focused experiments within them. “The experimental mind-set opens up the possibility of running several initiatives at the same time to discover which approaches work best” (Heifetz et al., 2009, p. 277).

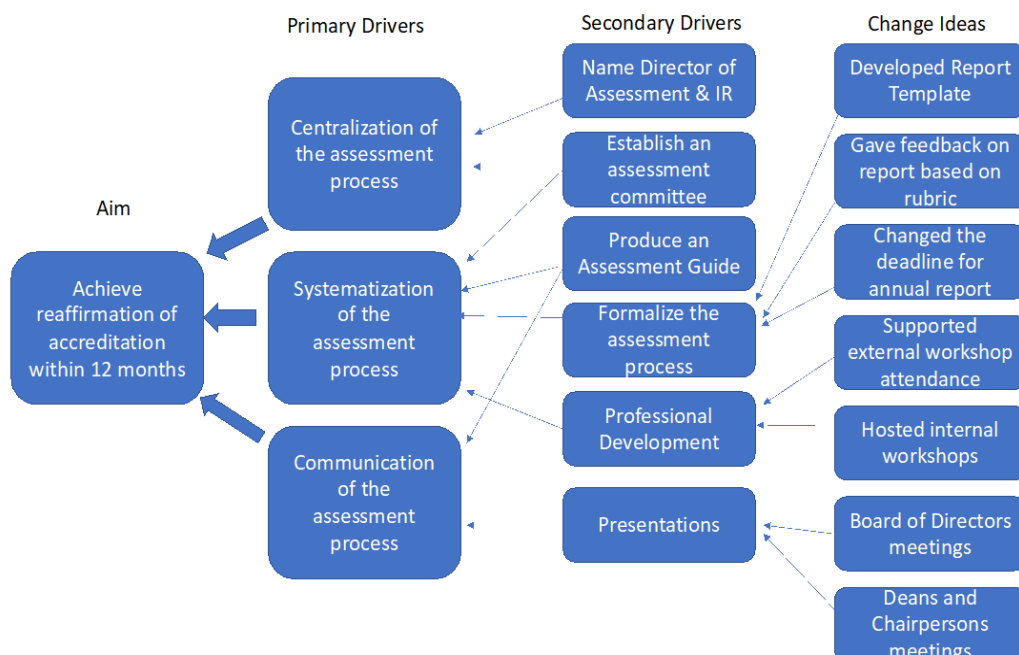


Figure 9. Driver Diagram is a Tool Used in Improvement Science to Work toward Achieving a Measurable Aim.

This driver diagram depicts how I understood the problem.

The driver diagram's aim is measurable in time (12 months) and focused on a precise goal (to achieve reaffirmation of accreditation). The primary drivers are a “small set of key improvement hypotheses” (Bryk et al., 2017, p. 74) that were Small School's targeted levers working in tandem to achieve the improvement aim; however, primary drivers are often too general in nature so secondary drivers are needed to identify more specificity in the types of actions that will lead to improvement. The change ideas are micro-level experiments that are formed, tried, and refined pushing on the secondary drivers, primary drivers, and ultimately on the improvement aim. Following is a description of how the primary drivers work together with a focus on the improvement aim.

3.2.1 Centralizing the Approach to Assessment

Middle States criticized Small School's decentralized process of student learning outcome assessment and recognized the lack of systematization and documentation. Therefore, two critical steps to centralization occurred: I was named the Director of Assessment and Institutional Research (DAIR) and the institution formed an academic assessment committee. The assessment committee includes the DAIR as chairperson and four faculty members known as assessment coordinators. This move was in the spirit of Kotter's step 2 – creating a guiding coalition. It was important for us to work to develop a vision and strategy for our new assessment process (step 3), communicate the vision to colleagues (step 4), and empower action by removing obstacles (step 5) (Kotter, 2012).

As a group representing multiple perspectives, the assessment committee took on several key experiments throughout the year including piloting a rubric to provide feedback on assessment reports (something that was inconsistently done in the past), establishing a revised assessment report template for the 2018-19 submissions (a previous template was also inconsistently used and a barrier to creating an acceptable report), and changing the deadline for those submissions (new). Addressing only the latter Test of Change, brainstorming conversations led the assessment committee to acknowledge that the previous August 1 deadline created an obstacle to using feedback for the upcoming academic year; so, the committee changed the deadline to the end of May so that departments could receive assessment feedback by mid-summer, learn from the feedback, and incorporate it into their planning for the upcoming academic year – Kotter's (2012) step 5 empowering broad-based action. The experimental mindset enabled the committee to make the change – an educated guess (Heifetz et al., 2009).

Worth explicitly noting, the improvement science model informed the assessment committee's work by using PDSA cycles to revise the feedback rubric. Namely, the committee adopted an established rubric from another institution (plan) with the prediction it would improve the feedback loop to chairpersons. Throughout the course of evaluating the 2017-18 assessment reports, committee members jotted down aspects of the rubric that did not work (do). As a committee we spent extensive time tweaking the rubric to make it more focused on Small School's assessment process rather than the generic nature of the piloted rubric (study). Finally, the assessment committee revised the rubric and used it during the evaluation of the 2018-19 reports (act). This PDSA cycle capitalized on multiple perspectives from the assessment committee, school deans, and faculty chairpersons who were the recipients of the feedback. This example, once again, shows how Kotter's (2012) step 5 – empowering broad-based action – to rid the process of obstacles was key to developing a more useful rubric and contributed to developing a strategy to achieve the vision (step 3).

3.2.1.1 Aligning the System

The committee successfully completed the above mentioned PDSA and implemented a consistent feedback loop between the committee, school dean, and academic department chairpersons via the rubric; the committee, however, was not without challenges. Colleagues on the committee fell into old cultural habits in regard to protecting the status quo during committee work. For instance, three of the four assessment coordinators had served in the role prior to the establishment of the committee in the centralized model. The decentralized coordinator role was in many ways a “name only” position that did not produce much valuable action or support for good student learning outcome assessment. School deans held decentralized assessment

coordinators inconsistently accountable and with no documented process it was hard to give consistent direction.

From my leadership role as chairperson of the newly formed assessment committee and the person now responsible for centralized assessment, I concluded that two of four assessment coordinators posed challenges to forward momentum. Namely, one member agreed with everything that I said and did not contribute original thoughts or challenge ideas, while the other strongly held on to the status quo of the old way of assessment – continue to monitor but take no action. I saw all of Heifetz et al.’s (2009) adaptive leadership archetypes emerging – work avoidance, speaking the unspeakable, competing commitments, and the gap between espoused values and behavior – and I knew in order to be an adaptive leader I could not ignore warning signs that could threaten our assessment progress. I also saw some of Kotter’s (2012) common errors to organizational change efforts occurring – “allowing too much complacency and failing to create a sufficiently powerful guiding coalition” (p. 16). Therefore, after consultation with the school deans and Vice President for Academic Affairs, I made a change to committee membership for the 2019-20 academic year. I did not know if this committee membership change would be effective or not, but I could not take the risk of the status quo continuing. “...To practice leadership, you need to accept that you are in the business of generating chaos, confusion, and conflict, for yourself and others around you” (Heifetz et al., 2009, p. 206).

The assessment committee is currently still very much a work-in-progress, an opportunity for me to continue to practice adaptive leadership. “The culture-creation leader therefore needs persistence and patience, yet as a learner must be flexible and ready to change” (Schein, 2017, p. 351). I can see that I need to find ways to infuse professional development for the assessment coordinators and not rely on their self-motivation to explore new assessment strategies and explore

the scholarship of teaching and learning. In the coming year, I hope to execute another Test of Change by developing an onboarding process for a new assessment coordinator and developing a retreat to enhance coordinators' confidence and know-how in order to help other departments. Both tests of change will be significantly influenced by what I learned through my Test of Change assessment consultation for this doctoral study.

3.2.2 Systematizing the Approach to Assessment

Perhaps one reason Middle States found inconsistency in SLO assessment was because of the lack of documentation of the process and, therefore, the challenge in communicating a unified vision internally and externally. Publishing an Assessment Guide that documents a step-by-step process was a pivotal step to improvement. As I continue to use Heifetz et al.'s (2009) experimental mindset, he cautions against using it during a state of emergency so presenting the Assessment Guide as a "solution" (rather than an experiment) had to be explained internally. The Assessment Committee emphasized that, much like the assessment process itself, the guide would undergo a yearly review and be updated as necessary. The message that the guide was subject to revision signaled that it would also be rooted in continuous improvement even though at the point of its initial publication it was more like a solution.

The PDSA cycle was the guiding tool in the development of the Assessment Guide framing the continuous improvement of Small School's process and procedures (see Appendix B). The process laid out in the Assessment Guide was an initial attempt to add more structure to the existing process, which was not previously well documented. The first step in the development of the Assessment Guide relied on benchmarking and best practices data from other schools as well as

the consultation from assessment experts in the field. This was the planning phase of this PDSA cycle and also developed a strategy for the assessment process and a means to communicate it.

The Assessment Guide documents the process, informs the development of curriculum maps, SLOs, assessment plans, and other assessment-related activities. Throughout the year notes were made about how the guide could be improved based on how people used the guide, questions people asked, or suggestions people made (do). One year after its initial publication, the annual review and update included the addition of an assessment coordinator job description, a revision to the assessment process including a more user-friendly timeline, and modification to the charge of the assessment committee to be more specific (study and act). Step 4 – communicating the vision – was repeated when faculty were notified that a revised Assessment Guide had been published to the institution’s portal (Kotter, 2012). Several of these modifications were made after I was executing a PDSA cycle throughout the first year of the Assessment Committee. The lessons that I learned about the inefficiency of the committee (study) drove action to include clearer expectations documented in the second iteration of the Assessment Guide (act).

3.2.2.1 Aligning the System

Another important part of systematizing the approach to assessment at Small School was developing a *Closing the Loop Day*. This is an end-of-the-year day dedicated to student learning outcome assessment attended by faculty in order to give them the opportunity to communicate and collaborate about what students are learning. This event is a documented item in the Assessment Guide. I viewed the first annual *Closing the Loop Day* in 2019 as the culmination of the year’s events and a springboard to sustainability of our new culture of assessment. I developed a brief PowerPoint presentation that set the stage for the day by retrospectively looking at the educational policies committee 2017-18 general education report to inform the planning for the 2019-20

general education assessment cycle. After giving a summary of key recommendations for assessment from the educational policies committee report, I presented some brief information about the Association of American Colleges and Universities (AAC&U) VALUE (2009) rubrics in order to practice assessment. Faculty first performed an assessment of a senior capstone academic poster individually (all faculty were looking at the same poster), next faculty discussed their ratings in small groups of no more than 8 per table, and finally faculty participated in a large group discussion. This exercise was set up very much in the spirit of a score norming session to ensure that faculty had the same understanding of definitions and were using the VALUE rubric (critical thinking in this case) in the same way.

Besides building faculty's connection and ownership of general education, another important first step accomplished in 2018 was the creation of a general education curriculum map. As Suskie (2015) describes "curriculum alignment is ensuring that your course, program, or general education curriculum is designed to give students enough opportunity to achieve your key learning outcomes" (p. 135). This was the college's initial attempt in getting faculty to think about the connections and alignment of their courses with general education SLOs. It also exposed significant gaps in the assumptions that faculty have made about the requirements. This activity seemed to jumpstart thinking among faculty about how alignment in the curriculum is key to success. *Closing the Loop Day* capitalized on this momentum.

Assessment expert Peggy Maki (2010) states "establishing formal institutional times for collective discussion of, reflection on, and interpretation of results leading to actions to improve student learning" (p. 284) will foster a collective responsibility within the faculty and contribute to a learning organization. The *Closing the Loop Day* provided such a structure for discussion,

reflection, and interpretation of results. It also took advantage of collaboration among faculty within and across disciplines. She continues,

campuses can develop another channel of communication by bringing together members of a campus community to share and interpret institution- and program-level assessment results in formal campus wide forums designed to (1) learn about institutional practices, (2) explore new practices, (3) learn about assessment results, and (4) build institutional learning based on those results (p. 289).

Rallis and Lawrence (2017) also endorse collaboration and inquiry in assessment. They say, “The overriding question asked in inquiry processes should not be: ‘Is it valid?’ but rather ‘Is this a useful way of understanding, and potentially acting upon, a given problem?’ The users hold the key — they determine truth or value” (p. 26). Smith and Gordon (2018) agree noting that many schools purposefully connect faculty and other assessment practitioners with novice faculty assessors to build capacity and encourage idea sharing cross campus. The notion of validity and adequate sampling was a topic discussed during *Closing the Loop Day*. It gave me an opportunity to push faculty’s thinking away from statistical significance (a default for no action) and think about student learning in the spirit of continuous improvement.

While *Closing the Loop Day* was a first attempt at an institutional assessment event, it has potential to become an engrained part of Small School’s assessment culture especially for the general education program – currently undergoing a revision. Academic administration is committed to this event as it serves to formalize and systematize the assessment approach to general education, which Papadimitriou (2018) suggests is a positive step in becoming an organizational routine. The observational data, informal conversations, group discussion, and the data from the evaluation form helped to measure the effectiveness and inform fine-tuning for next

year's event. The data also provide rich evidence that Small School is working to improve its assessment of the general education program and informs the revision process.

3.2.3 Communicating the Approach to Assessment

During the year on warning (2018-19), the annual August Deans and Chairpersons' workshop focused exclusively on student learning outcome assessment and an opportunity to gather multiple perspectives to inform action throughout the year. My presentation enabled me to continue in Kotter's (2012) step 3 – to develop strategies to achieve the vision – and step 4 – to communicate the change vision. I gave an overview of good assessment practices, emphasized the use of shared language, cautioned against common pitfalls, and reviewed the assessment process at Small School. Next, I led an exercise to gather data and perspectives about where our adaptive challenges could impede progress.

This interactive meeting used an affinity diagram tool to elicit faculty input as they responded to prompts by writing their thoughts on post-it notes and grouping them together with similar responses. The prompts asked faculty leaders to identify assessment needs, concerns, confusions, and suggestions. Some themes that emerged included: concerns about time commitments; lack of communication on progress or annual reports; anxiety regarding the analyzed results and necessary actions to improve; a lack of a common language; lack of professional development; and aversions to risk-taking in pedagogy or curricular changes.

The information collected at this workshop informed activities, presentations, and communication throughout the academic year helping to move into step 5 – empowering broad-based action – to identify obstacles to change (Kotter, 2012). Much of the early part of the academic year on warning was spent in step 4 communicating the change vision with faculty,

which felt constant, and step 5 empowering them to keep doing the work of assessment (Kotter, 2012). The post-it notes freed faculty to share their perspectives openly and anonymously, and I recognized several adaptive challenge archetypes in these notes – speaking the unspeakable, recognizing competing commitments, and seeing gaps between faculty values and behavior (Heifetz et al., 2009). It is important to know that the data collected that day, nearly two years ago, still provide valuable insights and areas for improvement. Of course, there are always the challenges of resources, both financial and human, and time to execute many of the items suggested, but it still serves as a guidepost for sustaining a culture of assessment based on the perspectives shared that day.

The affinity diagram data triggered the planning for other events throughout the academic year including offering professional development opportunities internally through a series of faculty-led presentations and discussions. These learning opportunities were change ideas in the goal of continuous improvement of the assessment process, also a strategy in achieving the vision – Kotter’s (2012) step 3. The internal professional development could also be considered a short-term win (step 6) because faculty were not previously offered these chances to improve their assessment know-how. The professional development sessions were measured by attendance. On average there were 16 participants per session in 2018-19 – approximately one third of the full-time faculty attending one or more session. The 2018-19 attendance included 28 unduplicated faculty who participated in one or more sessions representing 14 academic departments.

The professional development sessions continued in year two but were not as well attended. In 2019-20, the average attendance was 12 participants per session including 27 faculty representing 17 academic departments. Perhaps the drop off in attendance has a threefold explanation including the latter items that I recognize as Heifetz et al.’s (2009) adaptive challenge

archetypes: 1) people feel that they have adequately gotten up to speed on assessment and do not need to spend additional time; 2) people do not feel the same sense of urgency that they did during year one – the year on accreditation warning (work avoidance); and 3) people have competing commitments including a major general education curriculum revision is underway. Continuing these internal professional development sessions are still a priority; however, this is a good opportunity to use PDSA cycles to improve the sessions to maintain momentum, increase attendance, and continue to build assessment capacity – Kotter’s (2012) step 7 consolidating gains and producing more change and step 8 anchoring new approaches in the culture.

Finally, year two of this project (2019-20) began with the momentum of good news from Middle States reaffirming our accreditation. The Middle States site-visit team recognized Small School’s hard work during the last year, but future demonstration of sustained improvement is required. Therefore, this academic year was focused on the next important step of the improvement journey to demonstrate progress or the assessment of the assessment.

3.2.3.1 Aligning the System

The new assessment report feedback rubrics provided the opportunity to quantify improvement in the form of indicators: exemplary, benchmark, and making progress. The rubric is a way to give formative feedback to department chairpersons about their execution and communication of SLO assessment in writing, which is in line with Bryk et al.’s (2017) important qualities for measurement for improvement to inform change. Figure 10 was shared with faculty chairpersons at the annual opening meeting in 2019-20 to visually show what percentage of departments fit within the indicator category and to recognize the work of faculty (Kotter’s step 6 – generating short-term wins), use increased credibility to continue to improve and support assessment (Kotter’s step 7 – consolidating gains and producing more change), and provide the

opportunity to make connections between new behaviors and organizational success (Kotter’s step 8 – anchoring new approaches in the culture) (Kotter, 2012). Figure 10 is an example of an improvement measurement that is “closely tied to the specific work processes it seeks to improve” (Bryk et al., 2017, p. 91).

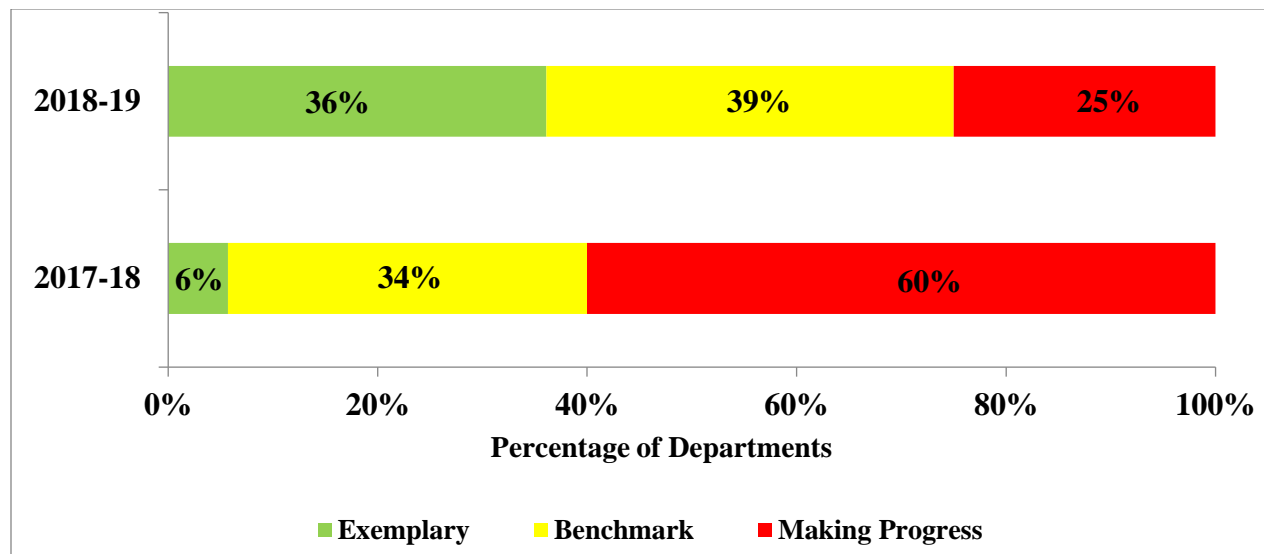


Figure 10. The Percentage of Academic Departments at Small School Making Progress on the Quality of Assessment Reports

Starting the academic year on this good note set the tone for continued commitment to improvement of the SLO assessment culture at Small School. The news of reaffirmation also increases credibility of the new SLO assessment process – step 7 consolidating gains and producing more change (Kotter, 2012).

The early part of the academic year was spent meeting about feedback that the assessment committee provided to every academic department. Each meeting included the academic department chairperson, the school dean, and me. These meetings reinforced the written feedback based on the rubric. For the academic departments still in the “making progress” category, this was

an opportunity for me to practice my adaptive leadership skills and “speak the unspeakable” (Heifetz et al., 2009). It was a good learning experience for me as a leader to see how orchestrating conflict and holding steady keeps the work focused and allows for suggestions to move forward.

3.3 Seeing the System: The Complexity of Assessment and Leadership

While most people do not realize “experiments” were occurring, and are occurring still today, the collection of data enabled me to see the system in different ways to recognize the layers of complexity. Namely, and perhaps most obviously, our assessment infrastructure is situated in the organization of Small School: institution, schools within the institution, departments within the schools, individuals within departments. Looking at SLO assessment from this angle enabled me to see the adaptive challenges of faculty’s competing commitments, work avoidance, and gaps between values and behaviors (Heifetz et al., 2009) It is also an occasion to revisit Kotter’s (2012) step 5 – empowering broad-based action – to look for ways to minimize obstacles, change processes to positively contribute toward the vision, and encourage different thinking of how to accomplish sustainability of SLO assessment.

One way to analyze the system in its current state is the Force Field Analysis tool (Lewin, 1951). In a recent assessment committee meeting, this tool illuminated forces that are currently driving the institution toward sustainable SLO assessment and forces that are continuing to restrain SLO assessment. The brainstorming session for driving and restraining forces was adapted so that strategizing was occurring as forces were added. Reflecting on the ideas generated by using the tool, I saw the continued adaptive challenge of competing commitments, but I am also looking to

the “song beneath the words” to see a lack of confidence, knowledge, and defensiveness of assessment work as restraining improvement (Heifetz et al., 2009).

For clarity, I provide a few instances of observed adaptive challenge archetypes at Small School. An example of competing commitments are faculty members who report juggling research and scholarship in their discipline, improving their teaching, developing new courses, and conducting SLO assessment. Other adaptive challenges noted are work avoidance, namely, trying to push the work to another committee or delaying a decision for another year; and gaps between values and behaviors, namely, publicly stating that a department is very committed to assessment but producing a subpar report that does not use direct assessment data to drive improvement of student learning.

In order for SLO assessment to be sustainable, continued improvement is needed but faculty are experiencing what Schein (2017) describes as learning anxiety. The fears that I saw and continue to see, particularly loss of power and temporary incompetence, led me to develop ideas for action and additional learning as one strategy to produce wins (step 6), consolidate changes to produce more change (step 7), and anchor new approaches for SLO assessment (step 8) (Kotter, 2012). While internal professional development sessions continued during the academic year as noted above, seeing the system revealed the need for a more individualized approach.

3.4 Lessons Learned in Naming and Framing the Problem

In theory, the establishment of a sound assessment process at an institution should be easily reproduced from other exemplary assessment programs; however, the complexity of each institution makes exact replication impossible. The intertwining of improvement science, change

management, and adaptive leadership informed the way I have approached the SLO assessment improvement journey at my institution.

This project has many experiments occurring simultaneously on varying timelines, which is analogous to building the airplane in mid-air. The three models, improvement science, Kotter's (2012) eight-stage change, and Heifetz et al.'s (2009) adaptive leadership, provided the necessary guiderails for experiments and initiatives to align with and keep a focused eye on establishing and embedding continuous improvement of student learning outcome assessment. "This reflects a simple fact about systems: one's understanding of a system continues to deepen through efforts to change it. It is learning by doing" (Bryk et al., 2017, p. 79). Learning by doing – building the airplane in mid-air – enables me and my colleagues to use routines and processes to gather data that will eventually lead to better results of embedding assessment into the institutional culture.

Informed by best practices and the data collected to date, the assessment process at Small School is now at a point that it needs to be fine-tuned and adjusted by the users (faculty) to make it their own – Kotter's (2012) step 8 to anchor new approaches in the culture. The experiments and system alignments described above were, in many ways, the first iterations of establishing a sound process.

Without the commitment to future iterations of experiments the process will likely be abandoned, which is why making the process user-centered is of utmost importance at Small School.

Most changes take an additional investment of time, energy, and intellectual and material resources. And if the organization does not prioritize the change project, it is likely to get short shrift or be quickly washed out, unless there is a strong bottom-up enthusiasm (Mintrop, 2016, p. 28).

As Mintrop describes, centering the process with faculty will lead to the bottom-up enthusiasm. Therefore, my Theory of Action and Test of Change proposes working with colleagues from one department to learn together, build support and leadership, and engagement in order to establish support for future assessment improvements to scale and spread to the institution level.

3.5 Theory of Action: Sustaining Momentum in Assessment Efforts

The Theory of Action “is a prediction of how to address a problem of practice” (Mintrop, 2016, p. 43). Following all of the experiments and activities described during the phase of Name and Frame the Problem, my Theory of Action enters during year two (2019-20) as the institution was formally notified of its reaffirmation of accreditation by Middle States – Kotter’s (2012) step 6 generating small-term wins. However, another monitoring report is required for Small School to continue to demonstrate improvement in regard to SLO assessment. At this point, Small School has the task of sustaining the momentum in assessment – not an easy job.

Data show preliminary signs of progress (see Figure 10) with regard to significant capacity building in a brief amount of time. This broader capacity has resulted in more meaningful assessment, analysis, and action plans to improve effectiveness. The challenge now is the work to cultivate a culture of assessment and that cannot be accomplished in just a year or two. It must be an ongoing, focused process until the change is embedded in the culture.

There is still much complexity in testing my Theory of Action. I am working from data collected throughout the past year, observations I have made, and my own judgment of what will make a difference at a systems level at Small School. Bryk et al. (2017) note,

The most compelling improvement hypotheses often exist at the intersection of these “three voices” – how does the system appear to work; what does relevant theory and empirical research suggest about promising changes; and what seems plausible to educators who might try out these changes in their classrooms, schools, and colleges? (p. 73).

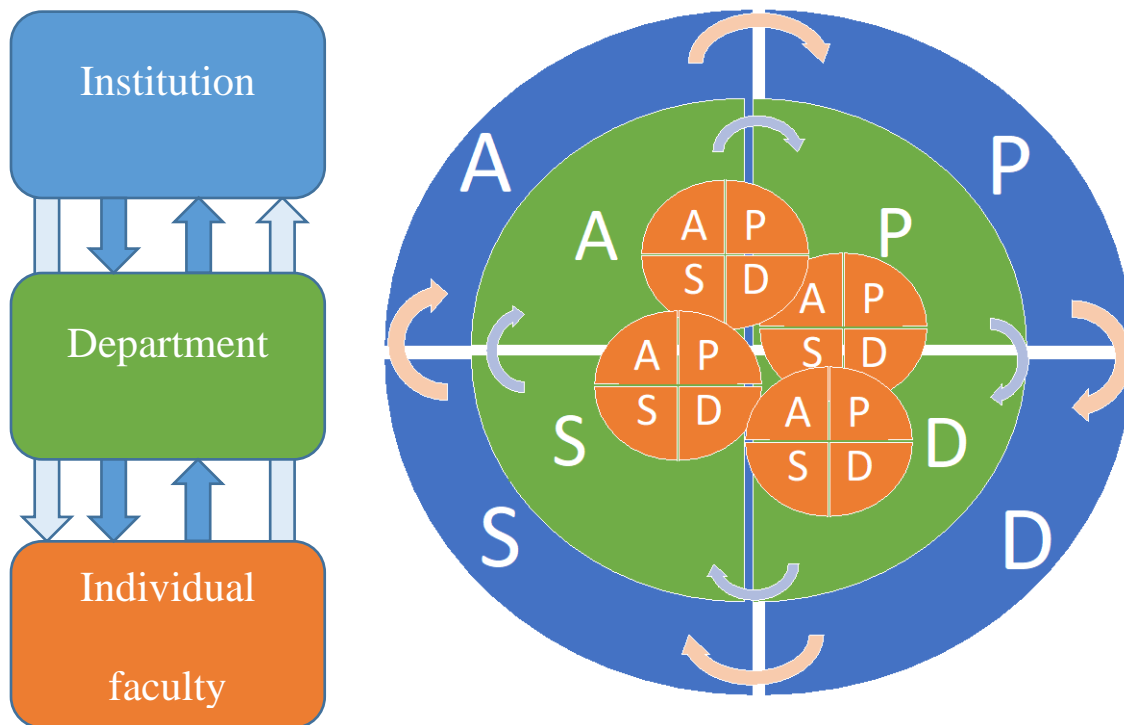


Figure 11. My thinking of my Theory of Action that is Influenced by Kotter’s (2012) Description of “Wheels within Wheels” in the Change Process

The system is in a position to revert back to old habits and not fully adopt and embed this new process into the culture. Learning as a shared experience (Schein, 2017) can help to solidify the place of SLO assessment in the culture and develop leaders who can accelerate and implement the assessment structure more broadly (Bryk et al., 2017). Figure 11 makes visible how Kotter’s (2012) “wheels within wheels” analogy helped me to see my Theory of Action depicting how the

complexity of the system fits together to inform all levels from individual faculty member (orange) to department (green) to institution (blue) thus informing my Theory of Action.

Learning is interjected at various levels and works together to inform improvements throughout the institution. “Actionable knowledge is generated in one context, but is made relevant for other contexts. Theories of action are the appropriate vehicle for generating, testing, and corroborating actionable knowledge” (Mintrop, 2016, p. 76). This learning to produce actionable knowledge occurs and informs the system in all directions – individual to department, department to institution, institution to department, etc. as illustrated by the rectangles to the left of the PDSA cycles.

3.6 Test of Change: A Pilot Assessment Consultation

My prediction for my Test of Change is informed by data and observation that what is learned within the “J” Department, may then be scaled to other departments in the future as I establish a process to scale and spread the change to the whole institution. The challenge for year two, following reaffirmation of accreditation and beyond, will be to hold steady so that faculty in Small School can start to make the new process their own by adjusting, discussing, and suggesting further improvements for sustainability (Heifetz et al., 2009; Kotter, 2012). The deceptively simple improvement questions are clear: “1) what specifically are we trying to accomplish?; 2) what change might we introduce and why?; and 3) how will we know that change is actually an improvement?” (Bryk et al., 2017, p. 114).

In an answer to these questions, Small School aims to sustain the SLO assessment momentum and embed the processes into the culture individually, departmentally, and

institutionally. The following subheadings will be categorized into the *Plan-Do-Study-Act* cycle that I conducted as part of the pilot assessment consultation. At each phase, I will describe what occurred, as well as interject some of my own observations. Based on field notes, focus group and survey data I summarize my findings in the Studying Phase. The Acting Phase focuses on what I learned during the pilot assessment consultation. When appropriate, I point out when I noticed Heifetz et al.'s (2009) adaptive leadership influence and Kotter's (2012) process for creating major change.

3.6.1 Institution-wide PDSA – Plan Phase

My Test of Change proposed developing a pilot assessment consultation approach at the department level to build assessment know-how, confidence, knowledge, and leadership. I informally approached the department chair of the “J” Department, shared my idea for a pilot assessment consultation, and asked to if she would be willing to allow me the opportunity to work with the department. She agreed.

Tools such as surveys, a focus group interview, and field notes helped me to know if this new consultation process/change was an improvement. Prior to starting my work with the “J” Department, I obtained Institutional Review Board approval both from Small School and the University of Pittsburgh. All participants signed a consent form (Appendix C) that was stored in a locked filing cabinet within my locked office and participants were read a consent statement prior to the start of the focus group interview (Appendix D). All participants signed the form prior to the commencement of the project, and verbally consented to participate in the focus group at the end of the project.

3.6.1.1 Data Source: “J” Department

My Test of Change inquiry setting specifically took place in the “J” Department. The data source is the four full-time faculty within the department– one newly tenured, two on the tenure track, and one on a term contract. To provide some context about the department, as of the Fall 2019 census the department enrolled 82 first majors, four second majors, and 10 minors. The department is accountable for five percent of all degree-seeking undergraduate students in the institution; it is one of the highest enrolled majors. In the 2018-19 completions cycle, 23 Bachelor of Arts degrees were awarded. The major curriculum requirements include 42 overall credits with 27 common credits, 12 discipline-specific elective credits, and a three-credit capstone dependent upon the concentration chosen.

I had a pre-existing relationship with most of the full-time faculty within the department, which is why I chose it. This is analogous to convenience sampling for its efficiency and low cost (Patton, 2002) but also capitalizes on “personal and professional connections [that] generally serve researchers well in gaining entry to a site or sites” (Durdella, 2019, p. 160). Additionally, most of the department faculty are relatively “new” to the institution – less than 10 years. They have recently completed hiring for the foreseeable future and are working to gel as a team. Choosing the “J” Department closely matches Bryk et al.’s (2017) concept of a networked learning community, which “joins together the discipline of improvement science with the dynamism and creative power of networks organized to solve common problems” (p. xiv).

As outlined in the following sections, I worked with the “J” Department and that interaction was marked with Bryk et al.’s (2017) four essential characteristics (p. 196):

1. Focused on a well-specified common aim;
2. Guided by a deep understanding of the problem, the system that produces it, and a shared working theory to improve it;
3. Disciplined by the methods of improvement research to develop, test, and refine interventions; and
4. Organized to accelerate their diffusion out into the field and effective integration into varied educational contexts.

3.6.2 Institution-wide PDSA – Do Phase

On October 23, 2019, I met with the department to start our project together. Upon a brief presentation on improvement science and the use of PDSA cycles as a tool, I asked faculty to establish an aim to work toward achieving together during the pilot process. At first, I observed that “J” faculty nonchalantly thought they would take several department SLOs and use them as the collective aim, but as they continued to discuss what this work might entail, they organically pinpointed a problem area in their curriculum. Namely, students were underprepared for a mid-level research methods course and the research aspects of the capstone course, and the faculty members were re-teaching many of the foundational concepts. Other faculty realized how they might be able to infuse more introductory research lessons across the 100-level courses. The “J” faculty settled on focusing their aim on that specific SLO – “conduct and evaluate [discipline specific – omitted for confidentiality] research.” This represented the departmental PDSA.

I encouraged each individual faculty member to think about and identify one course (four courses total) to complete one or more PDSA cycles between October 2019 and March 2020 focusing on the aim of better preparing students for executing research methods. These smaller

PDSA cycles adopted by individual faculty were working to inform the larger PDSA cycle in assessing one specific program SLO. Another example of “wheels within wheels.” I asked them to record their individual PDSA cycles on a worksheet and make other reflective notes; this happened sporadically. I kept my own notes as I met with individual faculty members, which helped to supplement these data.

Simultaneously, I conducted my own PDSA cycles in order to learn the most effective ways to provide consultation to the “J” Department and gather data on how to spread and scale this assessment consultation. Being a practitioner embedded within the improvement site enabled easier access for the coordination of schedules, but also aided in seeing the participants in their natural setting. Attending their departmental meetings throughout the academic year allowed me to build stronger relationships with my colleagues, which will be an important aspect of working to spread and scale this assessment consultation process. Additionally, I had the opportunity to see myself as a system (Heifetz et al., 2009), gather multiple perspectives to understand the adaptive change, be willing to take risks along the way, communicate the change vision, orchestrate safe-to-fail experiments, and gain credibility to keep the work going (Garvey Berger & Johnston, 2015; Heifetz & Linsky, 2002; Heifetz et al., 2009; Kotter 2012).

3.6.2.1 Data Collection Methods

Benchmarking data, survey, faculty notes, observation using field notes, and a focus group were used to ensure sufficient data were collected to triangulate information and add reliability to next steps. I note each data collection method and identify what worked or did not work with the method.

Benchmarking data. During my overview proposal presentation, I anticipated analyzing other institutions’ assessment websites for plans, strategies, activities, and reports from three

similar Carnegie Classification institutions and three different Carnegie Classification institutions. I hit roadblocks when collecting these data. The barriers were twofold: 1) I most commonly found a link that showed promise to a data point of value but was password protected and linked to the institution's internal website; and 2) similarly-sized schools do not often provide as much assessment data and resources, or any in some cases, on their websites as larger, well-resourced, research universities did. I learned from executing a benchmarking search what was possible to collect to inform the change, and part of improvement science is trying things fast to learn from it. Now that data have been collected locally within the "J" Department at my institution, I learned that this external benchmarking exercise might be more valuable during the spread of change to continue to expand and refine iterations of the assessment consultation process at the institution level. External resources and ideas can be better adapted to the needs of individuals and departments during the spread of change. I see benchmarking as a valuable data source to move the consultations forward to ensure that all departments are receiving the kind of help and advice needed.

Survey. Administering an adapted Faculty Survey on Teaching, Learning, and Assessment (FSTLA) in a pre- and post- manner, I hypothesized would help me to measure aspects of faculty work life, assessment knowledge, innovation in pedagogy, perceptions of assessment and their own learning, perceptions of PDSA cycles, attitudes toward assessment, and confidence in executing effective assessment (see Appendix E). The pre-survey was sent to the faculty of the "J" Department on October 21, 2019 and the post-survey was sent on March 2, 2020. Both surveys were sent using the e-mail distribution feature in Qualtrics. In addition, I planned to use a 1-3 question Qualtrics survey after each individual meeting with faculty members in order to collect reflections of learning and perception data about how the process was unfolding; however, I shifted

to collecting these reflective data in person. I also planned to meet with each faculty member every other week, which was nearly impossible to schedule between my schedule and their classes, office hours, committee work, holidays, and other day-to-day appointments. Instead, I debriefed with each faculty member in a more casual, social way after each of our occasional meetings. I found this to be efficient and effective. It also allowed me to ask follow-up questions or probe further if a faculty member shared a thought of particular interest.

Observation using field notes. As the practitioner working with my faculty colleagues, attending meetings and joining in discussions of results, I was able to observe and take field notes to keep a record of particular successes, challenges, and behaviors (non-verbal gestures and expressions, interactions, etc.). These observations were done over the six-month period stated above.

The goal is to capture people's naturalistic actions, reactions, and interactions, and to infer their ways of thinking and feeling... These researcher-constructed patterns of social action inform us in ways that we may be unable to gather solely from interviews or other data collection methods (Saldaña, 2011, p. 46).

I was an active participant, but not fully embedded day-to-day in the life of the department. I was selective in the ways that I interacted with "J" faculty but did participate in their departmental meetings on October 23, 2019, January 27, 2020, and February 24, 2020. I took field notes that were both reflective and descriptive (Durdella, 2019). In order to guide descriptive field notes, I used Saldaña's approach to focus my observations to action, reaction, and interaction and label my own wonderings in the moment as OC – observer's comments. These field notes provided powerful data points in learning, recording, and using information to advise the spread of the

assessment consultation throughout the institution, but also informed how to work with this group of colleagues, particularly.

Focus group using semi-structured interview protocol. I conducted one focus group interview with all four members of the faculty in the “J” department participating on March 9, 2020, which I audio-recorded and stored in a password protected cloud-based folder. Only I, as the practitioner and researcher, have access to this audio recording.

Originally, I planned to adapt parts of the National Center for Postsecondary Improvement’s (NCPI) Faculty Interview Protocol (n.d.), particularly the assessment questions, to use to conduct a focus group at the conclusion of PDSA cycles. The NCPI Faculty Interview Protocol and the Faculty Survey on Teaching, Learning, and Assessment (FSTLA) informed my approach to the questions that I posed; however, I based the questions solely on what I learned during the work with faculty or wanted to know more about for use in the Spread of Change (see Appendix D).

I asked specifically about faculty’s perceptions of the micro-change/PDSA process, what they learned, the barriers and opportunities they experienced using this method, and their thoughts for improving this consultation process for the future. “With semi-structured interview guides, a mix of questions, prompts, and topics informs your work but leaves open opportunities to follow hunches and intuitive directions” (Durdella, 2019, p. 220). This approach enabled me to probe further into certain topics based on the focus group conversation. I asked mostly experience and/or behavior questions as well as opinion and/or value questions (Durdella, 2019). These data were an important aspect of helping me to enhance the assessment consultation process in order to spread the change institutionally.

The qualitative software Quirkos was used for coding not only the focus group data, but also the open-ended questions in the pre- and post-survey data. The starting point for codes of the interview protocol and open-ended survey questions were derived from Faculty Survey on Teaching, Learning, and Assessment (FSTLA) as they more closely related to some of the questions that I asked and provided a guide in categorizing assessment themes. Additional codes were added as themes emerged (see Appendix F).

Preparing for the focus group. According to Michael Patton (2000) “a focus group interview is an interview with a small group of people on a specific topic” (p. 385). Focus groups emerged in the 1950s primarily to do market research and were later used in academia by sociologist Robert K. Merton (Patton 2000). Patton and Donna Mertens (2015) agree that focus groups are simply interviews held in a group setting. “The object is to get high quality data in a social context where people can consider their own views in the context of the views of others” (Patton, 2000, p. 386).

A facilitator or moderator of a focus group usually has a list of questions that can be either formal or informal. These questions can be structured or unstructured depending upon how the researcher is approaching the data collection. According to Donna Mertens (2015) “The role of the focus group facilitator is a challenging one” (p. 384). Mertens goes on to say that the facilitator “needs to be able to control the interview process so that all participants can express themselves, one or a few people do not dominate the discussion, more introverted people are encouraged to speak, and all important topics are covered” (Mertens, 2015, p. 384).

According to Thomas Greenbaum (2000),

One of the major benefits of focus groups is the ability to use the energy of the participants to interaction with each other so that the topic being discussed can be

explored in greater detail than would be the case if the discussions were handled in a question-and-answer format. This requires the moderator to know how to involve the members of the group in the discussion in such a way that they will react to each other rather than simple responding to the moderator (p. 36).

In order to effectively execute the focus group, I held a practice session with two colleagues from academic departments other than the department that is the focus of my pilot doctoral study. The session occurred in a conference room in mid-afternoon – this was an effort to try to simulate the actual focus group that would be conducted in an office setting at a small round table in late afternoon. Having worked with my colleagues in the “J” Department throughout the last several months, I have observed their group interactions and recognize tendencies for some colleagues to speak more than others. I recognized this could pose a challenge in a focus group setting.

Therefore, in my practice focus group session I used Greenbaum’s (2000) technique that he calls a “write-down exercise.” Greenbaum gives several examples including first thoughts and overall rankings, preference ratings, and position-fixing exercises. He notes this as a way to include all voices and give introverted people the opportunity to share their thoughts. It is also a way for people to be more truthful, particularly when they have something to say that is contrary to other opinions. I chose to adapt these exercises to not only ask for a rating but also a description of how the participant arrived at the rating (see Appendix G). The “write-down exercise” worked well with my practice participants and affirmed its usefulness and gave me confidence to proceed with this activity during my actual focus group that I conducted with the “J” Department.

Many data collection methods, like focus group and observation using field notes, provided a strong picture of the effectiveness of the intervention. I learned from the pilot assessment

consultation which methods were most effective (field notes, one-on-one meetings, and the focus group interview) and which ones could be eliminated (benchmarking and survey). In order to spread the change, I will likely downsize the amount of data collected when scaling to other departments to make it manageable and useful.

3.6.2.2 Faculty Vignettes

Each faculty member proposed one or more PDSA cycles for one of their lower-level classes – wheels within the wheels. Following I provide a brief synopsis of each of their micro-change experiments by using numbers to differentiate between the faculty members. Each faculty section will be broken into the steps of a PDSA cycle for clarity. Additionally, at the end of each faculty vignette there will be a chart noting how many one-on-one meetings I had with the faculty member and other information that leads to my observation and measurement of engagement.

Faculty-1 plan phase. During our meeting together, Faculty-1 brainstormed and planned to introduce a new activity to review parts of a peer-reviewed journal article as a class. She is the faculty member who teaches the mid-level research course and sees the need for students to have an enhanced introduction to research.

Faculty-1 do phase. In a 100-level class, Faculty-1 introduced students to how theories are applied in research by presenting components of the peer-reviewed journal article. After students spent a good bit of time studying a particular theory throughout the semester, Faculty-1 showed parts of a research article section by section, discussed how it related to the particular theory, and talked about the functions of each section in the social sciences. Being familiar with how theory is applied to research and how it is presented are areas of weakness when students enroll in the mid-level research course; therefore, this exercise was an introduction that will be reinforced later in the curriculum.

Faculty-1 study phase. Because of the timing of this introductory exercise (toward the end of the fall semester), Faculty-1 did not feel like it was well executed because it “felt rushed.”

Faculty-1 act phase. For future, she would like to try this exercise again but at the beginning of the semester. Faculty-1 thought it might help students to better understand concepts if they were able to compare and contrast a popular article versus a scholarly article. She is wrestling with the idea of allowing students to select their own scholarly article for this exercise, which would give them practice searching and vetting scholarly articles. Faculty-1 also wondered if it would be better to segment the exercise into three parts to reinforce the concepts of how research contributes to theory. If she decides to break the exercise into three parts, she thought that it could be an exercise that she does three separate times throughout the semester for reinforcement (the act phase).

Figure 12 uses my field notes to document Faculty-1’s level of engagement as evidenced by observations, meetings, and other communications. Faculty-1 exhibited mid-level engagement.

Number of one-on-one meetings	Researcher Observations
2 (plus several phone calls, emails, and after-the-meeting conversations).	<ul style="list-style-type: none"> • Faculty-1 participated with many interactions occurring informally when we were together in other meetings. • Faculty-1 reported her PDSA cycle was “unsuccessful” in that she did not get the results that she anticipated but plans to try again with better timing of the exercise the next time the course is offered. Faculty-1 believed the timing was an issue. However, in the focus group interview she noted that she learned from the experience and thinks that was a success. • Faculty-1 exhibited signs of engagement during group meetings including head nodding, contributions to conversations, and eye contact. Occasionally, her body language suggested she drifted off. • Faculty-1 reflected that this project made her mindful of her teaching and what students are learning and “made space” for talking about scaffolding within the curriculum with colleagues in the department. • Participated in the pre- and post-survey.

Figure 12. Faculty-1 Level of Engagement Assessment

Faculty-2 study phase. Faculty-2 chose a 200-level layout and design course offered where she recognized the need for better scaffolding as well as giving students the opportunity to practice doing a scholarly level visual analysis of an image. Faculty-2 realized that students need to practice citing their methods, which links to the overall departmental aim of reinforcing skills for the mid-level research methods course and beyond.

Faculty-2 do phase. In working with one of her students, Faculty-2 created what she called a “citation cube” designed to differentiate various data sources (video, website, newspaper article, etc.) that students could insert into the criticism poster. The goal of the citation cubes was threefold: 1) it was a way to combine visual analysis and design; 2) it aided students in practicing to problem solve through a visual lens; and 3) students conducted research on an image.

Faculty-2 study phase. Faculty-2 indicated that students were successful at producing the citations, but the design aspect went poorly (this was not anticipated). Students were making the cubes too big on their posters; however, Faculty-2 admitted that the citation cube idea, introduction of it, and the production of the final posters suffered from end-of-the-semester time constraints (much like Faculty-1 experienced). Faculty-2 was especially interested in trying to involve students in assessment and did so by collaborating with her student on the citation cube.

Faculty-2 act phase. Faculty-2 wrote in her reflective notes on her PDSA cycle, “These [citation cubes] were the major change. They didn’t work as well as I’d hoped, but I think they hold great promise and I’m going to try them again next semester.” Faculty-2 took the opportunity to reflect on the PDSA cycle she conducted at the end of the fall semester and used what she learned to redesign parts of the class to start the spring semester differently. Just a few weeks into the spring semester, she reported that she had already seen a noticeable difference in the quality of work based on her second PDSA cycle for the spring semester. Figure 13 uses my field notes to

document Faculty-2's level of engagement as evidenced by observations, meetings, and other communications. Faculty-2 exhibited mid-to-high level engagement.

Number of one-on-one meetings	Researcher Observations
4 (plus several informal hallway and after-the-meeting conversations).	<ul style="list-style-type: none"> • Faculty 2 participated with many interactions including formal and informal conversations throughout the duration of the project. • Faculty 2 reported PDSA cycle was constrained by time but learned for the spring semester. • Submitted her PDSA notes and reflections on her learnings. • Faculty 2 exhibited signs of engagement during one-on-one and group meetings including head nodding, contributions to conversations, smiling, eye contact, and visible excitement to talk about the learning. • Faculty 2 reflected that this project enabled her to sit with a colleague, discuss, and deliberately think about what she wanted to accomplish and how to do it. She expressed the process was refreshing. • Participated in the pre- and post-survey.

Figure 13. Faculty-2 Level of Engagement Assessment

Faculty-3 plan phase. Faculty-3 took on several PDSA cycles throughout the duration of my doctoral project. First, she noted that she would add a small research exercise to one of her introductory classes. Faculty-3 noted the importance of backward design, so she thought first about what is critical for students to know (be introduced to in this lower-level class) in order to build for the mid-level research methods class.

Faculty-3 do phase. Students were given the name of a particular author/scholar and had to search the library database for an article. Students had to summarize a key concept of the article. Students were to state something that they learned from the article and something that they found difficult in identifying the key concepts. Finally, they had to cite the article using APA citation.

Faculty-3 study phase. Faculty-3 noted that she was struck by how anxious students got about doing even a small research assignment and she had a hard time imagining that students did

not do some form of this in high school. Faculty-3 said that students needed step-by-step guidance to execute the assignment.

Faculty-3 act phase. In the future, she plans to use this assignment again but will try to make it more group-based to reduce anxiety. Faculty-3 thought that perhaps she would find the article, ask groups to work on the questions, work together during class, and present the findings. She wrote in her reflection notes, “I’m most pleased that students shared take-aways [of the article]. The mechanics of finding sources and citing them still seems to be a challenge.” Faculty-3 admitted that she not only thought about the mid-level research course when she did this PDSA cycle, but she also thought about another mid-level course that she teaches and identified areas that students could improve. She plans to execute a version of this PDSA in her mid-level course.

Toward the end of the fall semester, Faculty-3 started to think and talk about her writing class in which she could conduct PDSA cycles. I recognized that our conversation was laying the groundwork for more rapid micro-changes for the course in the spring semester. She reflected on what was not going well in previous iterations of the course based on her experience and her interviews with former students. Faculty-3 identified areas she would like to see students improve. Faculty-3 also brainstormed with me about how she could incorporate research articles and ask for reflection essays without inducing the same anxiety about research. Faculty-3 spent much of the winter break re-working the class and built in many low stakes writing assignments to get students focusing on editing and revising and less focused on the final product. We had several emails, phone calls, and meetings in the midst of re-working this class. While this PDSA is ongoing throughout the current semester, Faculty-3 noted to me in an email, “thanks so much for your feedback and ideas. Having someone to bounce ideas off has been REALLY helpful.” Figure 14

uses my field notes to document Faculty-3's level of engagement as evidenced by observations, meetings, and other communications. Faculty-3 exhibited high-level engagement.

Number of one-on-one meetings	Researcher Observations
6 (plus several emails, drop ins to the office, and informal after-the-meeting conversations).	<ul style="list-style-type: none"> • Faculty 3 was the most active and engaged in the project. • Faculty 3 not only executed one PDSA but kept noting other PDSA she was conducting in other courses. • Exchanged several emails with reflections and submitted PDSA notes on her learnings. • Faculty 3 exhibited signs of engagement during one-on-one and group meetings including contributions to conversations, smiling, laughing, eye contact, and contributions to conversations. • Like other faculty, Faculty 3 reflected that this project enabled her to sit with a colleague, discuss, and deliberately think about what she wanted to accomplish and how to do it. • Participated in the pre- and post-survey.

Figure 14. Faculty-3 Level of Engagement Assessment

Faculty-4 study phase. Faculty-4 proposed trying a new assignment in his film class to help the students be more intentional about their criticism. Previously, he found that students immediately inserted their feelings and opinions of a creative work but did not use the critical lenses that they learned in the class.

Faculty-4 do phase. Faculty 4's PDSA cycle included having students read about criticism, watch an episode with a critical eye, transcribe the episode scene by scene, and finally re-watch the episode. Faculty-4 dissuaded students from recording value statements or opinions; rather, Faculty-4 wanted students to be more active in their watching to record exactly what they saw.

Faculty-4 study phase. Faculty-4 expressed regret that he started this in the middle of the semester because he sees this technique as a path forward in aiding students to relate theoretical aspects of criticism to produce better papers. This exercise gets students away from passively

watching because they have to pay attention to every single aspect of an episode. Faculty-4 described the assignment as “revelatory” and commented “this exercise turned the perspective of the course.”

Faculty-4 act phase. Faculty-4 has replicated this exercise to other courses during the spring semester and started using it at the beginning of the course. He noted that this technique has resulted in better papers. Figure 15 uses my field notes to document Faculty-4’s level of engagement as evidenced by observations, meetings, and other communications. Faculty-4 complied with the project but exhibited low-level engagement.

Number of one-on-one meetings	Researcher Observations
1 (a few informal conversations)	<ul style="list-style-type: none"> • Faculty 4 participated in a minimal way – similar to a compliance mindset; however, he was thoughtful about his PDSA cycle. • Faculty 4 reported PDSA cycle was successful and introduced a path forward in other classes. • Faculty 4 exhibited signs of disengagement during group meetings including fidgeting and staring into space. • Faculty 4’s course was not closely aligned with the collective aim of the department, which could explain disengagement. • Did not participate in the pre- or the post-survey.

Figure 15. Faculty-4 Level of Engagement Assessment

3.6.3 Institution-wide PDSA – Study Phase

The Test of Change with faculty allowed me to return to an aspect of step 1 – Name and Frame the Problem – in the improvement journey by seeing the system at a micro or departmental level but simultaneously seeing the system from the macro or institutional level. Schein (2017) points out the value in studying dimensions of culture particularly “when we try to understand how

organizational cultures are nested in broader macro cultures” (p. 103). It is important to pay attention to this complexity in culture in order to spread and scale the Test of Change. My work with the “J” Department uncovered several overarching themes triangulated through the focus group interview, open-ended survey questions, field notes, and PDSA reflections including: 1) valuing teaching and learning; 2) combatting assessment deterrents; 3) welcoming collaboration; and 4) appreciating the PDSA/micro-change framework. These themes provide necessary perspective both at the micro (departmental) and macro (institutional) level to understand the barriers and the opportunities of implementing the spread of change. I will highlight the themes that emerged through analyzing the focus group and open-ended question survey data.

3.6.3.1 Valuing Teaching and Learning

This theme emerged most prominently appearing $n = 48$ times including sub-categories of discussing particular course development or enhancements to the curriculum. Faculty talked about focusing on what students are learning, how they are learning it, and how faculty can improve opportunities to enhance students’ learning. During the focus group, one faculty member perhaps summed it up best by saying, “We are a cohesive group so we’re very fortunate in that we’re very supportive of each other both in ways that we all want to be creative in what we teach and how we teach but then also how are we preparing our students in our department curriculum.” Another comment noted, “Knowing that we want students to graduate with certain skills and knowledge has led to us communicating more and more frequently about both the goals and the sorts of assessments we are doing.” This theme aligns with Kotter’s (2012) steps 6-8 – generating short-term wins, consolidating gains and producing more change, and anchoring new approaches in the culture.

3.6.3.2 Combatting Assessment Deterrents

Faculty mentioned deterrents and challenges of executing assessment $n = 42$ times. The sub-themes included: time constraint/workload issues, preconceived notions about what assessment is or is not, restrictions on academic freedom, and being in a compliance mindset. During the focus group one faculty commented, “In my opinion, assessment is primarily understood as a quantifiable objective not as a qualitative objective and it’s making entrenched faculty twitchy that they may a) lose academic freedom and b) have to scientize (*sic*) stuff they perceive as not assessable.” Another faculty member said, “If somebody came in tomorrow and said ‘guess what we don’t have to assess ever again,’ I don’t think anybody would say ‘but wait it’s so valuable;’ we’d be like – thank God.” In this theme I noticed Heifetz et al.’s (2009) adaptive challenge archetypes especially the gap between espoused values, speaking the unspeakable, and the gap between behaviors and competing commitments. These data tell me that faculty are still grappling with many of these challenges in regard to SLO assessment and that it is not yet embedded in the culture.

3.6.3.3 Welcoming Collaboration

Faculty expressed the value in collaborating with colleagues $n = 25$ times. This theme was resounding in the analysis of faculty PDSA notes and research field notes. Most faculty mentioned in one way or another how much they liked being able to have a discussion with a colleague about pedagogy, student learning, and assessment. In answering the survey question *what are the opportunities to take advantage of in sustaining a good assessment program in this institution*, one faculty member wrote, “People LOVE to get together and talk and work with each other. People like collaborating. One of the super fun things about this project has been getting to meet with Julia about the small experiments, and talking with my colleagues in my department about theirs.”

In one-on-one meetings with faculty I frequently noted that faculty were talking more among each other about their micro-changes and pedagogy in general. Faculty would often mention a conversation with a fellow “J” colleague about their micro-change and appreciated the feedback they were able to give and receive.

3.6.3.4 Appreciating the PDSA/Micro-Change Framework

Faculty in the “J” Department were not familiar with PDSA cycles prior to our work together in October 2019. After the brief introduction to improvement science and the PDSA cycles, all faculty embraced the tool as a path forward. Faculty mentioned the PDSA framework/structure $n = 24$ times. One faculty member noted how to use PDSA cycles moving forward, “It was just like now I have almost a fall back for when something’s not working.” Another faculty member said, “...I like structure very much and so this [PDSA tool] has given me some structure and it’s been fairly transformative.” These comments told me that faculty felt rejuvenated by this new possibility of thinking about teaching, learning, and assessment, which I recognized as Kotter’s (2012) step 7 – consolidating gains and producing more change.

3.6.3.5 Researcher Insights During Study Phase

Though the department is small in size in regard to full-time faculty, it is representative of a department size at the institution. It was also interesting to notice that the “J” Department ultimately provided a typical bell-shaped normal distribution in regard to engagement. The charts at the end of each faculty member’s vignette document level of engagement as evidenced by observations, meetings, and other communications going from low engagement to mid-engagement to high engagement. “Understanding the sources of variation in outcomes, and responding effectively to them, lies at the heart of quality improvement” (Bryk et al., 2017, p. 35).

The variation that I observed in the “J” Department is what I expect to see across Small School at the macro level. There will be levels of excitement and high engagement in taking on this work, and there will be levels of low or no engagement; however, all data collected, no matter the faculty member’s level of engagement, pointed to finding ways for faculty to have the time and space to think more intentionally about student learning and teaching. The project enabled me to revisit step 1 in the improvement journey to see the system differently and think about this smaller system within the context of the larger system.

3.6.4 Institution-wide PDSA – Act Phase

My prediction that expanding the opportunity for faculty to collaborate in smaller settings helps them to think differently about assessment was affirmed through my learning. These data give me confidence that this is the path forward to spread and scale to the institution level. My Test of Change focused faculty on the scholarship of teaching and learning and continuous improvement and less on the “check the box” compliance mindset. Even the least engaged faculty member participated in the process and, ultimately, had many insightful comments during data collection.

During the focus group, faculty mentioned the Assessment Guide as a good way to communicate processes and procedures and also creates an opportunity for learning. One faculty member pointed to use of the guide and offered the suggestion of something similar as a way to evolve the assessment consultation process. Other faculty members chimed in about the Assessment Guide’s usefulness. The unsolicited mention of the Assessment Guide as a useful tool affirmed for me that some of Kotter’s (2012) eight-step process of creating major change had been realized – step 4 communication the change vision, step 6 generating short-term wins, and step 8

anchoring new approaches in the culture. This type of documentation, whether it be a written handbook or video tutorials (a suggestion from a faculty member), provide an opportunity to expand learning about assessment among the faculty at large. This suggestion and the organic way in which the conversation evolved made me notice that perhaps Heifetz et al.'s (2009) adaptive challenge of the gap between espoused values and behaviors may be shifting to see that the communication of the assessment process is valuable.

I learned that if I can schedule a small bit of time for faculty to reflect and collaborate (with me or their colleagues) on what they want students to accomplish that it has the potential to have a huge impact on the sustainability of the assessment process and culture at Small School. I learned that I had to navigate the amount of time that each faculty member could give in regard to this project and that some found the discussion to be powerful brainstorm sessions where new ideas emerged. I would likely scale back the number of one-on-one meetings and, perhaps, only participate in one departmental meeting. I would capitalize on the variation and willingness of faculty within future departments to spread and scale the change.

3.6.5 Key Points on Institution-wide PDSA

Using improvement science, specifically PDSA cycles, is a promising way to structure institutional student learning outcome assessment. Improvement science showcases the rapid learning that can occur by trying micro-change experiments. Not only did faculty learn by executing PDSA cycles in their classes, but I learned that it is an effective way to guide assessment of learning at the institution level. It will also help to minimize the notion that faculty themselves are being assessed for their assessment know-how and focus more on developing their expertise in teaching and student learning through assessment.

3.7 Spread the Change

The ultimate aim of this pilot assessment consultation was to learn from one department in order to spread to other departments throughout the institution. The goal was not to make comparisons, substantiate findings with statistically significant data or demonstrate cause and effect relationships; rather, my doctoral study used improvement science to locally focus on a true problem of practice at my institution to create and sustain student learning outcome assessment. The spread will be gradual to learn from multiple iterations or consultations, build allies, and capitalize on new assessment leaders' know-how.

What I learned from this small-scale intervention helps to inform a system-wide intervention in order to scale and spread among other academic departments within the college. One of Linda Suskie's (2009) keys to fostering a culture of assessment is to "respect and empower people, especially faculty" (p. 70) so this is a best practice tip from an assessment expert that informs and affirms spreading the change.

Bryk et al. (2017) give me a path for spreading the change by saying,

The educators involved in the early stages of improvement research become a key human resource in subsequent efforts to spread these changes. They have developed know-how – that is, how to make some set of changes actually work – and can now teach and mentor others along this same path (pp. 16-17).

Faculty in the "J" Department have learned by doing PDSA cycles as evidenced by the data collected. They found value in using a framework that included small experiments to inform their teaching and student learning. I see "J" faculty as conduits of the process that will allow me to spread the change to more departments in the future because some of them can serve as mentors to other colleagues.

The pilot informed how to create a plan to spread the change with the goal to consult with all departments within the next four-five years, which would mean consulting with five departments per year in that timeframe. Training two or three faculty colleagues, perhaps from the “J” Department, to do assessment consulting work could accelerate this timeline to consult with all departments within the next two-three years. The next step in the spread of change will be finding ways to make sure that each department is receiving consultation even for departments that still do not view assessment as important. This work will need to be supported by senior leadership – school deans and VPAA.

The suggestion of creating other guides (either in writing or on video) was one that shows great promise not only for Kotter’s (2012) step 4 communicating the change vision, but also tells me that the institution and this department particularly are into step 8 – anchoring new approaches in the culture. Not only can this idea for better documentation and tutorials assist in developing the assessment consultation process, it also provides an opportunity to engage more faculty in building capacity through the established professional development opportunities. This may help to mitigate the challenge of time. A quick video tutorial could be an effective way for a faculty member who is curious about how to execute new assessment techniques instead of attending a session; however, the valued collaboration would be lost. Collaboration was also a strong theme in the data, which is something to not lose sight of when developing this process.

Clearly, the spread of change will not be without the adaptive challenge of competing commitments (Heifetz et al., 2009). Time constraints were a resounding theme across all data collection points – field notes, focus group, and surveys. Using the allies that I have built in the “J” Department will help me to navigate how to find time and space to hone faculty’s skills at teaching and finding ways to enhance student learning.

4.0 Reflections on Using Improvement Science

Creating and sustaining a culture of SLO assessment at Small School is hard, complex, and slow work. As I continue to travel along this improvement journey in executing my work, I often think about the triangle of quality with its intersections of scope, cost, and speed (Blaich and Wise, 2018).

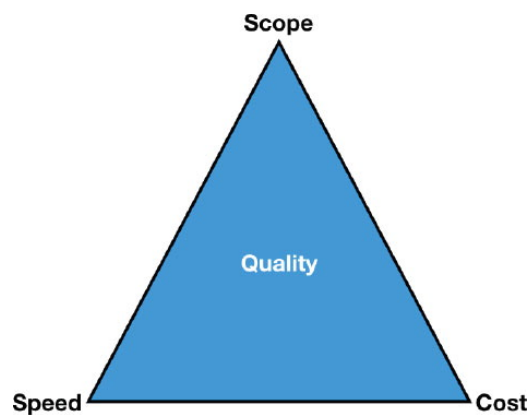


Figure 16. A Conceptual Tool That Demonstrates That Quality Must Have Scope, Speed, and Cost.

One cannot be sacrificed in favor of the others. (Blaich & Wise, 2018, p. 74).

In order to adequately embed quality SLO assessment into the culture of Small School none of these angles can be ignored or abandoned. This work is expansive, it is costly both in terms of finances and social and human capital, and it is slow – very, very slow. As Blaich and Wise point out, so often people give up one of the angles in order to move forward, but it impedes the quality of the work. I do not plan to give up any of the angles; however, that means that continuing to evolve and adapt is critical to the work in a patient and persistent way. The following questions allow me to assess how far Small School has come in creating a culture of assessment. The

questions also enable me to reflect on how the use of improvement science and the influence of change theorists can contribute to sustainability of SLO assessment. It also provides an opportunity for me to reflection on my own leadership.

The questions are as follows and will be used as subheadings:

- What did I learn about improvement science?
- Did I learn anything about leading change in general and leading change in crisis?
- Did I learn anything about the potential of my organization to adapt and change?
- What did I learn about myself as a leader of change?
- How do I see myself as a system that adaptively leads?

4.1 What Did I Learn about Improvement Science?

Improvement science allowed me to experiment to see if the creation of an SLO assessment consultation process on a small scale would be viable to grow and scale throughout the institution. This alleviated feelings of being overwhelmed by trying to produce a process all at once throughout the institution. Improvement science focuses on “learning fast in order to implement well” (Bryk et al., 2017, p. 204). As stated above, there is still much work to be done at Small School to embed and sustain SLO assessment in the institutional culture. But by using improvement science to conduct PDSA cycles within one department, I learned so much about what will and will not work when extending assessment consultations to other departments. “The key here is to recognize that modest beginnings are not antithetical to widespread improvements. Rather, starting small increases the likelihood that when we get to scale, the changes introduces will actually produce the outcomes sought” (Bryk et al., 2017, p. 204).

My colleagues in the “J” Department pointed out the aversion to the word assessment and offered suggestions for re-branding it. One faculty member suggested asking other faculty what is the one thing in their class that they are struggling to get students to do? Faculty speculated that reframing assessment work in this way, by using micro-changes for improvement, would not necessarily make some faculty think that they are doing assessment even though they *are* executing assessment. It occurred to me during this conversation that the word assessment and the lack of understanding about what it is or is not makes people perceive it as overwhelming. The micro-change projects seem to hold promise for a path forward to sustaining a culture of assessment in a less overwhelming way. The use of improvement science to rapidly test small changes aligns with Schein’s (2017) characteristics of a learning culture that is proactive, committed to “learning to learn” (p. 344), and seeking the “truth through inquiry and dialogue” (p.346).

Learning by doing with the help of the “J” faculty makes me believe that I can “replicate positive outcomes” (Bryk et al., 2017, p. 208) at scale. Bryk et al. go on to say,

We now know from quality improvement efforts in other sectors that the introduction of interventions into different contexts often creates new problems, problems that are as important to solve as the initial design and development of the intervention itself. This perspective points the issue of implementation away from simple conception of fidelity; it means we also have to study how to adaptively integrate interventions into different contexts if we are to attain improved outcomes reliably (p. 209).

“J” faculty were crucial to seeing the value of small inquiries in assessment work. The structure of the PDSA cycles gave faculty the freedom to experiment with different ways of doing assessment, and they expressed how their learning from this project will influence how they might move forward with assessment in their department.

4.2 Did I Learn Anything about Leading Change in General and Leading Change in Crisis?

I learned that as a leader you have to rely heavily on positivity about human nature (Schein, 2017) because no change can be executed by just one person – it has to be a team effort. As a leader, I often found myself observing situations through the adaptive leadership lens that I developed early on in my doctoral studies when I was first introduced to Heifetz et al. (2009). That foundational leadership course provided me with a framework and gave me practice in leading in complex times and through difficult situations. One of the most liberating things for me in leading is to be okay with demonstrating my vulnerability and displaying my own incompetence by saying “I don’t know” (Heifetz et al., 2009). Acknowledging that I do not have all of the answers gives me the freedom to lead courageously and to conduct small experiments alongside colleagues to learn and forge a path forward.

This posture was especially important in leading in a crisis. If I had pretended that I possessed all of the answers, colleagues would have seen through that behavior quickly. I also took care not to impose technical solutions onto complex problems. “The most common leadership failure stems from trying to apply technical solutions to adaptive challenges” (Heifetz et al., 2009, p. 71). During the crisis, the stakes felt high but constant observation of the system and gathering multiple perspectives helped to give direction in leading the adaptive challenge.

Over and over again, I saw Heifetz et al.’s (2009) four adaptive challenge archetypes emerge throughout the crisis – 1) the gap between espoused values and behaviors; 2) competing commitments; 3) speaking the unspeakable; and 4) work avoidance (pp.78-84) – but I had the tools and support to adapt and lead to successful reaffirmation of accreditation. Fear and anxiety were real motivators to change at our institution; however, sustaining the momentum is where the real

leadership will occur. The reaffirmation helped to solidify my role as an adaptive leader at my institution and challenges me to continue the work until it is firmly embedded in the culture.

4.3 Did I Learn Anything about the Potential of My Organization to Adapt and Change?

Change is everywhere. Change is hard everywhere. I recognize that true leadership emerges when a leader can adaptively unite others around new visions, strategies, and opportunities. Just learning about and executing assessment of student learning is not enough. The influences of Schein (2017), Kotter (2012), and Heifetz et al. (2009) have elevated my assessment work to be a transformative experience in leading the organization into a new era of assessment. It has enabled me to think about the work much differently in gathering multiple perspectives and seeing the systems that push on the assessment efforts. The variation in faculty's knowledge, experience, and engagement in the "J" Department also gave me practice with how to adaptively adjust to what people need in order to do quality assessment work and conduct micro-change projects in their classrooms.

Additionally, the crisis with Middle States showed the malleability of Small School to adapt and change quickly. "Crises are especially significant in culture creation and transmission because the heightened emotional involvement during such periods increase the intensity of learning" (Schein, 2017, p. 190). One of the first signs that the institution was learning and adapting to SLO assessment was when everyone started to use a common language. Prior to 2018, I would venture to say that few people knew what an SLO was nor did they reference it in a conversation. Today, the use of SLO references is commonplace. Faculty can articulate what direct and indirect assessment measures are, and faculty have demonstrated that competency through their improved

annual reports. Schein continues, “Crises heighten anxiety, and the need to reduce anxiety is a powerful motivator of new learning” (p. 190). As Kotter (2012) suggests generating and communicating short-term wins is critical to continue the work of assessment now and into the future. I would categorize this as a valuable short-term win.

4.4 What Did I Learn about Myself as a Leader of Change?

I learned that leading change suits my skillset and personality. I learned that as a leader you have to be committed to continuous improvement, both individually and for the greater good, before you can lead others to change in an organization. I learned that I cannot be discouraged by failure; rather, I have to use failure as a learning opportunity. Modeling the approach and behavior that you want your organization to employ is an important aspect of leadership.

My doctoral studies and my Test of Change, particularly, have shown me the importance of building a strong network of colleagues who are committed to improvements and who are dedicated to our common mission. Leading is not an independent job and being able to manage and adapt to all different kinds of people and situations only improves leadership. The day that I stop learning will be the day that I stop leading. In my mind, you cannot have one without the other.

4.5 How Do I See Myself as a System that Adaptively Leads?

Heifetz et al. (2009) state,

Within yourself as a system, your interests, your fears, your various loyalties all interact and affect your behaviors and decisions. Understanding the system that is yourself can help you make the personal changes needed for you to lead adaptive change successfully in your organization (p. 178).

In analyzing myself as a system, I noticed that my default response was “carrying water” or “doing the work of others that they should be doing for themselves” (Heifetz et al., 2009, p. 304). I work hard to change my default response to encourage and empower others to work with me. This work continues.

Seeing myself as a system framework also allows me to understand my various roles within the institution at the department level, on committees, and in informal settings. Recognizing my loyalties, knowing my tuning in situations that make me comfortable and uncomfortable, and broadening my repertoire of techniques and strategies to lead in various situations are all ways that Heifetz et al. have influenced my leadership. As I see myself as a leader in assessment, I observe ways Kotter’s (2012) influence appropriately intersects in my work too. While communication and generating short-term wins are ongoing, it is foolish to “declare victory too soon” (p. 13) because I realize that assessment work is not firmly anchored in the culture yet. Knowing that I am an important part in a larger system helps mobilize the whole system around a common goal – sustain assessment.

4.6 Conclusion

One thing that gives me great hope for the continuation of my improvement journey is the commitment that we, as an institution, have to successfully educating our students. This is a vision

around which all people can unite. Keeping student success at the forefront of our work will always lead to positive results. Learning by doing through the use of improvement science and the influences of Schein, Heifetz, and Kotter provide the guided path for adapting and innovating our education to produce that student success.

Appendix A Timeline of Events Outlining Improvement Journey and Kotter's Model

Month	Activity/Event/Action	Improvement Journey	Kotter (2012)
March 2018	Middle States warning	Name and Frame the Problem	Step 1 – urgency
May 2018	DAIR position re-established	Develop a Theory of Action	Step 2 – guiding team
May 2018	Published Assessment Guide	Develop a Theory of Action; Test of Change	Step 3 – develop vision and strategy
May 2018	Established assessment committee	Name and Frame the Problem	Step 2 – guiding team
August 2018	Changed deadline for assessment reports	Develop a Theory of Action; Test of Change	Step – 5 – empowering action, removing obstacles
August 2018	Deans/chairs presentation	Name and Frame the Problem	Step 3 – develop vision and strategy; Step 4 – communicate the vision
September 2018	Review syllabi for appropriate SLOs	Name and Frame the Problem	Step – 5 – empowering action, removing obstacles
September 2018	Developed a new assessment report template	Develop a Theory of Action; Test of Change	Step – 5 – empowering action, removing obstacles
October 2018	Provided feedback to chairs based on a piloted rubric adopted from another institution	Name and Frame the Problem; Test of Change	Step 4 – communicate the vision; Step – 5 – empowering action, removing obstacles; Step 6 – short-term wins
October 2018	Met with each chair and dean to reinforce feedback	Name and Frame the Problem; Develop a Theory of Action; Test of Change	Step 3 – develop vision and strategy; Step 4 – communicate the vision; Step 5 – empowering action, removing obstacles;

			Step 6 – short-term wins
November 2018-January 2019	Fine-tune report feedback rubric	Develop a Theory of Action; Test of Change	Step 5 – empowering action, removing obstacles
August 2018-May 2019	Communicated updates at meetings (deans/chairs, faculty, board of directors)	Name and Frame the Problem; Develop a Theory of Action	Step 3 – develop vision and strategy; Step 4 – communicate the vision
August 2018-May 2019	Offered internal professional development assessment learning events	Develop a Theory of Action; Test of Change	Step 4 – communicate the vision; Step 5 – empowering action, removing obstacles; Step 6 – short-term wins
March 2019	Small site visit team from Middle States gives complimentary report		Step 6 – short term wins; Step 7 – consolidating gains to produce more change
May 2019	Assessment Guide reviewed and updated	Test of Change; Spread the Change	Step 4 – communicate the vision; Step 8 – anchoring approaches into culture
May 2019	Annual reports submitted on new timeline	Test of Change	Step 6 – short term wins; consolidating gains to produce more change
June 2019	Accreditation reaffirmed		Step 6 – short term wins; Step 7 – consolidating gains to produce more change
June 2019	Close the Loop Day initiated	Test of Change	Step 4 – communicate the vision; Step – 5 – empowering action, removing obstacles
July 2019	Provided feedback to chairs based on revised rubric	Develop a Theory of Action; Test of Change	Step 7 – consolidating gains to produce more change

August 2019	Updated dean/chairs meeting on assessment progress	Spread the change	Step 8 – anchoring approaches into culture
August 2019	Force Field Analysis used with assessment committee	Name and Frame the Problem; Develop a Theory of Action; Test of Change	Step 3 – develop vision and strategy; Step 4 – communicate the vision; Step 5 – empowering action, removing obstacles; Step 6 – short-term wins
September-October 2019	Met with each chair and dean to reinforce feedback	Name and Frame the Problem; Develop a Theory of Action; Test of Change	Step 3 – develop vision and strategy; Step 4 – communicate the vision; Step 5 – empowering action, removing obstacles; Step 6 – short-term wins
September 2019	Offered internal professional development assessment learning event	Develop a Theory of Action; Test of Change	Step 4 – communicate the vision; Step 5 – empowering action, removing obstacles; Step 6 – short-term wins
September & December 2019	Communicated updates at board of directors meetings	Name and Frame the Problem; Develop a Theory of Action	Step 3 – develop vision and strategy; Step 4 – communicate the vision
October 2019	Initiated project with “J” Department	Test of Change	Step 4 – communicate the vision; Step 5 – empowering action, removing obstacles; Step 6 – short-term wins
November 2019	Offered internal professional development assessment learning event	Develop a Theory of Action; Test of Change	Step 4 – communicate the vision; Step 5 – empowering action, removing obstacles;

			Step 6 – short-term wins
November-December 2019	“J” Department faculty executing PDSA cycles	Develop a Theory of Action; Test of Change	Step 4 – communicate the vision; Step 5 – empowering action, removing obstacles; Step 6 – short-term wins; Step 7 – consolidating gains and producing more change
December 2019	Assessment Committee reviews plans for general education assessment	Name and Frame the Problem; Develop a Theory of Action; Test of Change	Step 3 – develop vision and strategy; Step 4 – communicate the vision; Step 5 – empowering action, removing obstacles; Step 6 – short-term wins
January 2020	Offered internal professional development assessment learning event	Develop a Theory of Action; Test of Change	Step 4 – communicate the vision; Step 5 – empowering action, removing obstacles; Step 6 – short-term wins
March 2020	Conducted focus group with “J” Department	Develop a Theory of Action; Test of Change; Spread of Change	Step 4 – communicate the vision; Step 5 – empowering action, removing obstacles; Step 6 – short-term wins; Step 7 – consolidating gains and producing more change; Step 8 – Anchoring new approaches in the culture

Figure 17. Timeline of Events Outlining Improvement Journey and Kotter’s Model

Assessment work at Small School continued into the spring 2020 semester despite the COVID-19 pandemic, which forced the closure of the residence halls and face-to-face instruction.

Appendix B Assessment Guide Cover with School Name Omitted

“Small School” Assessment Guide

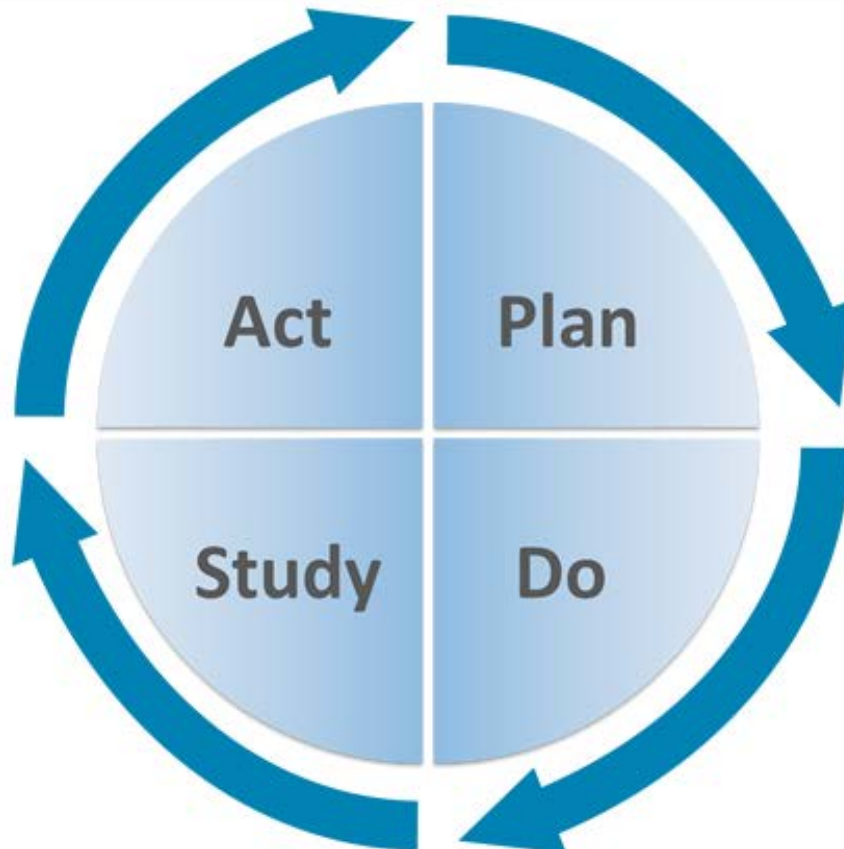


Figure 18. “Small School” Assessment Guide

June 6, 2019

Office of Assessment and Institutional Research

Compiled by Julia Cavallo in collaboration with Assessment Coordinators

Appendix C Faculty Participation Consent Form (Small School Name's omitted)

Consent to Act as a Subject in a Research Study

Creating and Sustaining a Culture of Student Learning Outcome Assessment at a Small, Liberal Arts Institution

Principal Investigator: Julia Cavallo, Director of Assessment and Institutional Research, 724-
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(ferkjea@pitt.edu)

Description:

The purpose of this research study is to pilot a student learning outcome assessment consultation within one academic department in order to spread and scale the consultation process to other departments within the institution. Participants may complete surveys, engage in a focus group, meet one-on-one with the researcher, and complete worksheets reflecting on the work they are doing.

Procedures:

If you choose to participate, the pilot consultation will be ongoing for a six-month period. Participants will first complete a survey of perceptions and attitudes toward assessment. Next participants will hear a brief presentation about improvement science and the use of Plan-Do-Study-Act (PDSA) cycles for improvement. Faculty will be asked to collectively establish an aim to collaboratively work toward achieving during the pilot process (an example could be focusing on the assessment of a particular SLO within the department). I will next ask each individual faculty member to identify one course to complete one or more PDSA cycles during the six-month period. These smaller PDSA cycles will inform a larger PDSA cycle in programmatic assessment of SLOs in the department. Small mini-surveys and reflection notes will be collected to gather perception evidence. A second survey administration of perceptions and attitudes will be conducted to measure differences after participating in this pilot assessment consultation.

Simultaneously, I will be conducting my own PDSA cycles and recording thoughts and reflections on a worksheet in order to learn the most effective ways to provide consultation to an academic department. Being a practitioner embedded within the improvement site enables easier access for the coordination of schedules, but also aids in seeing the participants in their natural setting. Additionally, as the practitioner working with my faculty colleagues, attending meetings, planning, and joining in discussions of results I will be able to observe and take field notes of particular successes, challenges, and behaviors (non-verbal gestures and expressions, interactions, etc.). Toward the end of our work, I will conduct a focus group interview that will be audio-recorded.

Risk and Benefits:

There are no known risks in participating in this research. There may be no direct benefits for you; however, information from this study may benefit other people now or in the future.

Cost and Payments:

Participants will not receive any payment for participation.

Confidentiality:

The identity of all participants will remain completely confidential with records being stored for one year in a password-protected, cloud-based folder. Only the investigator and her dissertation advisor will have access to information linking the participants' data with his or her identity. However, in unusual cases, my research records may be inspected by the {Small School} Institutional Review Board, appropriate government agencies, or be released in response to an order from a court of law.

Right to Participate or Withdraw from Participation:

Participation is completely voluntary and a participant may withdraw his/her consent to participate at anytime without penalty or loss of benefits to which you are otherwise entitled. To withdraw your consent a participant should contact the researcher in writing with the subject of the email stating "withdraw" directed to Julia Cavallo at jac409@pitt.edu.

Voluntary Consent to Participate in "Creating and Sustaining a Culture of Student Learning Outcome Assessment at a Small, Liberal Arts Institution": All of the above has been explained to me and all my questions have been answered. I understand that I am encouraged to ask questions about any parts of this research study during the course of the study, and that future questions will be answered by the researchers listed on the first page. Any questions I have about my rights as a research participant will be answered by the {Small School} Institutional Review Board Chairperson.

My signature means that I have freely agreed to participate in the research study entitled Creating and Sustaining a Culture of Student Learning Outcome Assessment at a Small, Liberal Arts Institution being conducted by Julia Cavallo. I also certify that I am at least 18 years of age.

Signature of Participant

Printed Name of Participant

Appendix D Focus Group Interview Protocol

Thank you for participating in my pilot study using PDSA cycles to improve student learning outcome assessment within your Department. As you know my name is Julia Cavallo. For the 45-60 minutes, I would appreciate your insight and feedback in regard to the use of PDSA and SLO assessment in general. Your participation in this focus group is voluntary and can be stopped at any time. I plan to jot some notes as we speak but I would also like to audio record our conversation today. This information will be kept confidential and your interview will be given an ID number only, which will be used in place of your name. The data will be stored in a cloud-based, password protected folder. Given these conditions, do you agree to participate in today's interview? Thank you for your agreeing to participate.

I have planned this focus group to last no longer than one hour. During this time, I have several questions that we would like to cover and collect the papers that I will distribute. If time begins to run short, it may be necessary for me to interrupt you in order to push ahead. I would also ask that you do not talk over one another.

This research study is being led by me (Julia Cavallo) as a doctoral student at the University of Pittsburgh. My faculty advisor, Dr. Jean Ferketish, can be reached at ferkjean@pitt.edu.

1. What have you learned by doing micro-change assessment projects using PDSA cycles?
 - a. Probe: Has it been beneficial or detrimental?
2. Do you feel that using and thinking about PDSA cycles as a framework in the assessment of student learning helps to improve teaching, learning, and assessment both on an individual level and at a department level?
 - a. Probe: Provide an example of how it improved or constrained learning for you.
3. What are some of the major challenges your department faces in attempting to change teaching, learning, and assessment practices? What are the major opportunities?
 - a. Probe: How could PDSA micro changes be involved in mitigating barriers or maximizing opportunities?
4. Do you think that this type of assessment consultation program could be scaled to different academic departments across the college? Why or why not?
 - a. Probe: How could this process be improved? Do you have suggestions of ways to elevate future consultations?
 - b. Probe: Do you think that this type of small group and individual consultation could positively change the culture of assessment on campus? Why or why not?

Appendix E Pre-Post Survey to Faculty in “J” Department via Qualtrics

Dissertation Pre-Post Assessment Survey

Start of Block: Default Question Block

The purpose of this research study is to pilot a student learning outcome assessment consultation within one academic department in order to spread and scale the consultation process to other departments within the institution. This survey is adapted from the National Center for Postsecondary Improvement's Faculty Survey on Teaching, Learning, and Assessment (FSTLA).

Participation is completely voluntary and a participant may withdraw his/her consent to participate at anytime. If you have any questions or concerns please contact Julia Cavallo at JAC409@pitt.edu or her dissertation advisor Dr. Jean Ferketish at ferkjean@pitt.edu.

Prior to this past academic year, how many times in the past three years have you discussed teaching with colleagues?

- ☐ Never
 - ☐ Every 2 or 3 years
 - ☐ Annually
 - ☐ More than once per year
-

Prior to this past academic year, how many times in the past three years have you participated in informal teaching development activities with colleagues?

- ☐ Never
- ☐ Every 2 or 3 years
- ☐ Annually
- ☐ More than once per year

Where do you learn to use new teaching, learning, or assessment techniques?

	Never	Occasionally	Frequently	Almost always
Discussion in faculty meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presentations by faculty in your department	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conversations with faculty colleagues across departments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your undergraduate students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Plan-Do-Study-Act (PDSA) Cycles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate your level of agreement with the following statements about student learning outcome assessment at this institution.

	Disagree strongly	Disagree somewhat	Neither agree nor disagree	Agree somewhat	Agree strongly
Most faculty do a good job of assessing what students are learning in the classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am doing a good job of assessing what students are learning in my classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most faculty regularly assess what their students are learning in the classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I regularly assess what students are learning programmatically (i.e. in our major)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student learning outcome assessment limits the amount of time I have to devote to other academic activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am reluctant to engage in student assessment for fear that student learning outcome assessment results will be used in evaluations for promotion and tenure

☐☐☐☐☐

I believe mandated student learning outcome assessment limits the academic freedom of faculty

☐☐☐☐☐

Student learning outcome assessment is more effective when determined by the faculty member rather than by the institution

☐☐☐☐☐

Small experiments (or PDSA cycles) help me to think deeply about how to measure and articulate what students are learning in my classroom

☐☐☐☐☐

Faculty in my department have standard criteria for student performance

☐☐☐☐☐

Faculty in my department coordinate assessment activities with administrators

☐☐☐☐☐

My department has an effective plan for monitoring student learning outcomes assessment for the next three years

☐☐☐☐☐

My department has influence on assessment techniques that I use

☐☐☐☐☐

My department demonstrates a great deal of consensus on its approach to student learning

☐☐☐☐☐

Student grades provide the best measure of what students learn

☐☐☐☐☐

Faculty should spend more time assessing student learning

☐☐☐☐☐

Faculty in my department use student performance information to reflect on their own teaching

☐☐☐☐☐

Student learning assessment has improved the way that I teach

☐☐☐☐☐

Faculty in my department use student assessment data to improve teaching and learning

☐☐☐☐☐

The effectiveness of teaching is enhanced when faculty regularly assess student learning

☐☐☐☐☐

From an educational standpoint, it is necessary for us to monitor what students learn

☐☐☐☐☐

What I learn by assessing student learning has immediate relevance to what takes place in the classroom

☐☐☐☐☐

Frequent communication with colleagues improves my student assessment practices

☐☐☐☐☐

Working one-on-one with a colleague or in small groups helps me to feel more confident in my assessment abilities

☐☐☐☐☐

Most faculty do a good job of assessing what students are learning in the classroom

☐☐☐☐☐

I am doing a good job of assessing what students are learning in my classroom

☐☐☐☐☐

Most faculty regularly assess what their students are learning in the classroom

☐☐☐☐☐

I regularly assess what students are learning programmatically (i.e. in our major)

☐☐☐☐☐

Student learning outcome assessment limits the amount of time I have to devote to other academic activities

☐☐☐☐☐

I am reluctant to engage in student assessment for fear that student learning outcome assessment results will be used in evaluations for promotion and tenure

☐☐☐☐☐

I believe mandated student learning outcome assessment limits the academic freedom of faculty

☐☐☐☐☐

Student learning outcome assessment is more effective when determined by the faculty member rather than by the institution

☐☐☐☐☐

Small experiments (or PDSA cycles) help me to think deeply about how to measure and articulate what students are learning in my classroom

☐☐☐☐☐

Faculty in my department have standard criteria for student performance

☐☐☐☐☐

Faculty in my department coordinate assessment activities with administrators

☐☐☐☐☐

My department has an effective plan for monitoring student learning outcomes assessment for the next three years

☐☐☐☐☐

My department has influence on assessment techniques that I use

☐☐☐☐☐

My department demonstrates a great deal of consensus on its approach to student learning

☐☐☐☐☐

Student grades provide the best measure of what students learn

☐☐☐☐☐

Faculty should spend more time assessing student learning

☐☐☐☐☐

Faculty in my department use student performance information to reflect on their own teaching

☐☐☐☐☐

Student learning assessment has improved the way that I teach

☐☐☐☐☐

Faculty in my department use student assessment data to improve teaching and learning

☐☐☐☐☐

The effectiveness of teaching is enhanced when faculty regularly assess student learning

☐☐☐☐☐

From an educational standpoint, it is necessary for us to monitor what students learn

☐☐☐☐☐

What I learn by assessing student learning has immediate relevance to what takes place in the classroom

☐☐☐☐☐

Frequent communication with colleagues improves my student assessment practices

☐☐☐☐☐

Working one-on-one with a colleague or in small groups helps me to feel more confident in my assessment abilities



What is the role of small experiments (or PDSA cycles) in framing the way you approach and collaborate with colleagues to support student learning assessment within the department?

From your viewpoint, what are the barriers to sustaining a good assessment program at this institution?

From your viewpoint, what are the opportunities to take advantage of in sustaining a good assessment program at this institution?

What have you learned about student learning assessment so far?

What do you hope to learn about student learning assessment in the future?

End of Block: Default Question Block

Appendix F Interview and Survey Coding

Appendix F.1 Quirkos Report

This report was generated by Julia Cavallo on Sun Apr 12 2020 07:16:41 GMT-0400 (Eastern Daylight Time) for the following file: C:/Users/julia.cavallo/Documents/Project.qrk.

Appendix F.2 Source Summary

Title	Author	Quotes #
Focus group transcript	Julia Cavallo	154
Faculty assessment inventory post open-ended questions	Julia Cavallo	45
Faculty assessment inventory pre-ended questions	Julia Cavallo	26

Figure 19. Source Summary

Appendix F.3 Quirks Summary

Quirk Title	Parent	Grandparent	Description	Author	Total Codes
Support			Opportunities to have training, workshops, mentoring, and professional development regarding assessment, teaching, and learning	Julia Cavallo	16
Confidence			Building confidence in executing assessment in the classroom and more broadly.	Julia Cavallo	11
Collaboration			Values dialogue, sharing, brainstorming, and working with colleagues.	Julia Cavallo	25
Teaching and learning			Recognizing that assessment is improving teaching and learning.	Julia Cavallo	29
Course development	Curriculum improvement	Teaching and learning	Assessment helps to inform and improve courses.	Julia Cavallo	7
Deterrents			Barriers, challenges, and negativity identified regarding assessment.	Julia Cavallo	8
Reflection			Self evaluation in context of assessment pilot	Julia Cavallo	22
Perspective			Noting instances and reflections about changes over time and experiences from other institutions..	Julia Cavallo	12
Paths forward for assessment			Ideas for how to spread and scale this assessment consultation work.	Julia Cavallo	15
Preconceived notions	Deterrents		Misconceptions about what assessment is or is not that often present themselves as barriers.	Julia Cavallo	9
Framework/Structure			References using PDSA cycles as micro-changes	Julia Cavallo	24

			throughout the pilot process as positive.		
Curriculum improvement	Teaching and learning		Recognizing that assessment helps to improve and refine the curriculum.	Julia Cavallo	12
Compliance mindset	Deterrents		Do the job because we have to, not for improvement's sake.	Julia Cavallo	9
Suggestions for future			Faculty note strategies, techniques, etc. for future iterations of assessment consultations.	Julia Cavallo	10
Time consuming	Deterrents		Faculty workload regarding having enough time for preparing, teaching, committee work, assessment, etc..	Julia Cavallo	11
Limiting academic freedom	Deterrents		Any restriction or limitation to what faculty feel like they cannot do in regard to assessment.	Julia Cavallo	5
TOTAL NUMBER OF CODES	225				
TOTAL NUMBER OF QUIRKS	16				

Figure 20. Quirks Summary

Appendix F.4 Property Summary

Appendix F.4.1 Quirks Canvas Primary

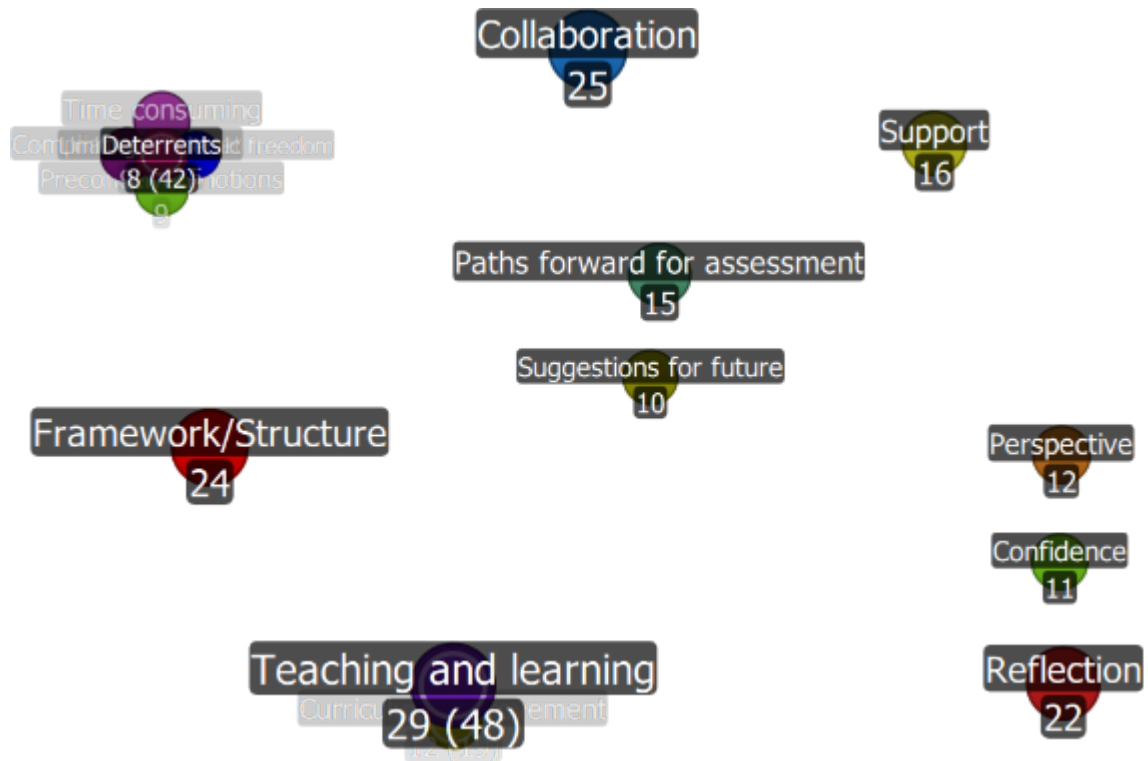




Figure 21. Quirks Canvas Primary

Appendix F.4.2 Text Sorted by Theme


Support



So I think it's only because I've learned so much through this opportunity and the trainings that are here, which was astonishing to me.
Source: focus group transcript




Instead of having to just restructure the whole final assignment, I found ways working with you to add in very small ways for them to practice doing what I wanted throughout the entire second half of the semester.
Source: focus group transcript




Because it was great having you here to do this and guide us.
Source: focus group transcript




It kept us accountable to a degree.
Source: focus group transcript




there's been a lot of opportunities around campus. We've had a lot of resources and you know people who are resources that are you know that are here to help us and workshops and things like that.
Source: focus group transcript



that's really some of the that's been some of the reward from all of this too is seeing how it works and all of us working together and being forced to do something departmentally as assessment. Not force but you know what I mean.
Source: focus group transcript



I think about the guide that you made for us few years ago and it's been a valuable resource. I think that if you use this as a as a pilot template for how you would scale it I think that some sort of documentation or portal page or website or you know or video or something that that can be disseminated broadly.
Source: focus group transcript



Then we're directed to this video, this page, this resource, and so then you set up meetings with department chairs or departments so it's not so intense on you. I think it could be scaled. I just think that like that the guide that's on the portal is something that is always there. It's like we were all encouraged to print it up, put on your bulletin boards, like that's where it is for me. It's right there I can always go back to it and so I think that that's what could be used as a model for you to make it bigger.
Source: focus group transcript

all the training we've had over the last couple years and then especially working with you and all the different opportunities for like learning about assessment and how that looks and doing assessment too.

Source: focus group transcript

So I kept the same formula experience + training + curiosity and then added structural support and awesome colleagues, which is what got us from an 8.5 to a 9. But there is a lot of structural support here for us to do this kind of thing – working on this project with you, and the kinds of training that we have at the school but also that all of us are willing to get together and work as a team and do this kind of stuff is wonderful.

Source: focus group transcript

I think that that I don't know whether that's in the consultation that happens and you show people it's not this or it is that; it's not throw the baby out with the bathwater. I think that's a huge obstacle.

Source: focus group transcript

We have administrative support. We also have some structures in place to support faculty development. These could be enhanced to deal specifically with assessment.

Source: Faculty assessment inventory post open ended questions

Collaboration and communication with peers/other faculty. Campus leaders in assessment working with faculty one-on-one or working with a department on assessment ~ like what Julia has done with the communication department.

Source: Faculty assessment inventory post open ended questions

We need some champions of the process and some mentoring but also the cultural expectation that we faculty are cultivating our craft in a meaningful and ongoing way.

Source: Faculty assessment inventory post open ended questions


Julia and other leaders who can help guide our assessment or answer questions along the way. Assessment learning opportunities ~ like the workshops and gatherings we've had over the past year seem to be very helpful.

Source: Faculty assessment inventory pre ended questions

It's a big process (work) but I also do not feel pressure from administration to figure out how to assess everything perfectly within a single semester, which I appreciate.

Source: Faculty assessment inventory pre ended questions

Confidence




And then my confidence in executing it at a Department level is a 9 although I don't know if I feel like I might not be doing it the best way because this was really our first shot at it, at doing it. But I do feel more confident.

Source: focus group transcript




And so I wouldn't have done that before; I wouldn't have done that before this process.

Source: focus group transcript




it gave me another trick. It gave me another tool. It was just like now I have almost like a fall back for when something's not working. I can immediately apply this and in this case it's in the middle of a class and I'm pulling this out and we're going to do this now so I can get better feedback from you moving forward as opposed to in the other class it was an assignment that I it was too late.

Source: focus group transcript



But now I can I can recognize it in the middle of it and work to correct it before it gets to that end product. And so like that formal assessment report to the end versus I'm assessing as I'm going and I'm foreseeing a bad future. But I'm going to try to correct that before I get there.

Source: focus group transcript




that's really some of the that's been some of the reward from all of this too is seeing how it works and all of us working together and being forced to do something departmentally as assessment. Not force but you know what I mean.

Source: focus group transcript



I think that we are getting better

Source: focus group transcript




So I just think I'm a good teacher. I mean I'm confident in my teaching but I think this is made my teaching much more intentional.

Source: focus group transcript



I've only seen us get better over the course of my three years here.


Source: focus group transcript




It wasn't like this worked out great you know but it's still I'm still super confident like this asks. I'm still super confident I can assess. It doesn't change the fact that I feel like I can or I feel confident I can.



Source: focus group transcript




I still feel like I can do this again I'll just do it a different way
Source: focus group transcript




To me it has made it easier because I'm just like "export." And I tried this and this is what happened and it went well or did then here's what I would have all the end so to me it's made it easier than sort of like yeah it's May.
Source: focus group transcript


Collaboration




When he and I taught the documentary class together, which was a good lesson for me on teaching because I was watching him teach and I think he's really good,
Source: focus group transcript




so new as a as a team and I I think that we are getting better
Source: focus group transcript




I was geeking out with [faculty name] like I wrote a really good assignment on Sunday and I'm pretty proud of it. Then I was like who says that like I'm really proud of this assignment that I wrote because it took all this information into account.
Source: focus group transcript




we're having more, we as a team, are having more and more intentional conversations about our curriculum as a department. We are a cohesive group so we're very fortunate in that we're very supportive of each other both in ways that we all want to be creative in what we teach and how we teach but then also how are we preparing our students in our department curriculum.
Source: focus group transcript



Instead of having to just restructure the whole final assignment, I found ways working with you to add in very small ways for them to practice doing what I wanted throughout the entire second half of the semester.
Source: focus group transcript




We've been having this mantra between us like let them play and do first and then define what they're doing because if you put that definition first then they just stop like you've given me the definition and they can put it in a notebook and I don't have to think about it until the test. So that sort of play/do first is something we've been talking about.
Source: focus group transcript



I think it is just kind of carving out the time to do it collaboratively. Even sometimes myself doing it for my class.

Source: focus group transcript




that's really some of the that's been some of the reward from all of this too is seeing how it works and all of us working together and being forced to do something departmentally as assessment. Not force but you know what I mean.

Source: focus group transcript




So I felt like I had a chance to talk about them without them...

Source: focus group transcript



But I think because we were thinking about it for our own work we probably did tend to talk about it more where they were crossovers you know and what we were doing or sharing what we were doing. That opened up the space for that.

Source: focus group transcript




but also that all of us are willing to get together and work as a team and do this kind of stuff is wonderful.

Source: focus group transcript




we need to make our curriculum work better together. Everybody wants to.

Source: focus group transcript




And I think the way we did it was really...they way you're having us doing right? They way we're focusing on an SLO. We're each talking about how a class we, you know, maybe what we would like to work on for this SLO.

Source: focus group transcript




So [faculty name]'s like introducing it and telling them before they even get to it like you know you might hem and how about this class but look at how it's going to benefit you in your career, outside of your career, which is awesome, I think too. Which is something like we didn't really talk about with the assessment but it's been something I think that's definitely been a result of this project too.

Source: focus group transcript




I like assessment because it helps me be a better teacher and because it helps us as a department create a better curriculum.

Source: focus group transcript




But like it helps the curriculum to work better. It helps us to identify weak spots like that students were getting to research methods not knowing how




to do anything at all and you can't teach you everything in one semester, three completely different methodologies, how to do a lit review, how to read an article and write like you just can't. Realizing that and figuring out how to scaffold it throughout our curriculum like is a thing that we can learn from doing an overarching assessment.

Source: focus group transcript




Knowing that we want students to graduate with certain skills and knowledge has led to us communicating more and more frequently about both the goals and the sorts of assessments we are doing. Research is one of our outcomes. As a faculty we have broken research into component, assessable, parts that we believe will scaffold to deeper and more sophisticated research projects for juniors and seniors. Also, discussing what we are doing in terms of outcomes, I believe, is helping us to reinforce ideas and skills across classes.

Source: Faculty assessment inventory post open ended questions




We collectively identified a weakness in our curriculum, and are each working to address it in our own courses through small experiments (monitored by PDSA cycles), convening at least once a semester to check in and adjust.

Source: Faculty assessment inventory post open ended questions




People LOVE to get together & talk & work with each other. People like collaborating. One of the super fun things about this project has been getting to meet with Julia about the small experiments, and talking with my colleagues in my department about theirs.

Source: Faculty assessment inventory post open ended questions




Collaboration and communication with peers/other faculty. Campus leaders in assessment working with faculty one-on-one or working with a department on assessment ~ like what Julia has done with the communication department.

Source: Faculty assessment inventory post open ended questions




I think it's really effective when there is ongoing conversations about assessment in departments/schools/colleges.

Source: Faculty assessment inventory post open ended questions




I really enjoyed our discussions and learning about how others are assessing the same SLO in another class. I think that this experience will help to frame how we approach assessment in our department from here on out.

Source: Faculty assessment inventory post open ended questions




We need some champions of the process and some mentoring but also the cultural expectation that we faculty are cultivating our craft in a meaningful and ongoing way.

Source: Faculty assessment inventory post open ended questions



These conversations also allow us to share ideas, brainstorm, and troubleshoot, resulting in richer and better teaching.


Source: Faculty assessment inventory pre ended questions



It is very helpful to tell a colleague that I am trying something new or different, then assess it, then discuss my observations, students' observations, and the assessment results with my colleague.

Source: Faculty assessment inventory pre ended questions

Teaching and Learning




When he and I taught the documentary class together, which was a good lesson for me on teaching because I was watching him teach and I think he's really good,

Source: focus group transcript




we need to make our curriculum work better together. Everybody wants to.

Source: focus group transcript




I was geeking out with [faculty name] like I wrote a really good assignment on Sunday and I'm pretty proud of it. Then I was like who says that like I'm really proud of this assignment that I wrote because it took all this information into account.

Source: focus group transcript




But I can't do that for another year and a half because I'm not teaching that class for another year and a half but it's something that now as an exercise I carry through all my visual classes.

Source: focus group transcript



And now use the visual language and then what did that scene mean within the context of the film? And use that very basic exercise that I got in that television class which is just watch something and transcribe it almost.

Source: focus group transcript



I couldn't apply it until I teach it again but now it's like I'm going to start this tomorrow and then hopefully this will get them thinking in a different way. And hopefully will make their papers better.

Source: focus group transcript

And having that kind of structure for teaching ongoing and not just at the end of the semester – OK I'm exhausted and laying on the floor – uh what should I change the next time I teach this class?

Source: focus group transcript

How do I help them get to that and so in the moment like let me develop an in class exercise that can help them practice what they're going to do in the assignment just like you're saying so even though I'm fly by the seat of the pants I have that little you know cycle [PDSA] on my desk like OK how can I help them succeed you know in the classroom you know how can I help them succeed with this assignment? So that's a 10 minute, 15 minute classroom thing.

Source: focus group transcript

Just to say for your advanced class, what is the expectation? What is one expectation or one SLO from that advanced class and just work backwards from there. Back it out of there and so I over your name [other faculty member] is in the assignment in the annotated bibliography assignment “when you get to Dr. Harvey’s research methods class this is what you will be doing.” So they know.

Source: focus group transcript

Right, this is something and I also said that if you never do another research project after college this is also why this is relevant to you.

Source: focus group transcript

And then assessment comes in as a tool at the end to find out if they understood what you wanted them to understand.

Source: focus group transcript

I like assessment because it helps me be a better teacher and because it helps us as a department create a better curriculum.

Source: focus group transcript

It’s so much more meaningful now.


Source: focus group transcript

And you're like oh I need to pivot now and so then it's the accumulation of your experiences that that guides how you dictate it.

Source: focus group transcript


So I just think I'm a good teacher. I mean I'm confident in my teaching but I think this is made my teaching much more intentional.

Source: focus group transcript




We are a cohesive group so we're very fortunate in that we're very supportive of each other both in ways that we all want to be creative in what we teach and how we teach but then also how are we preparing our students in our department curriculum.

Source: focus group transcript



We should tell them that it's leading to something.

Source: focus group transcript




Well I'm thinking about it not as what aren't you assessing in your class but thinking about it as what aren't students doing in your class that you want them to be.

Source: focus group transcript




And like getting them to think about that was just so hard, right?

Source: focus group transcript




That's what assessment is for, right, is for finding out that. But this cycle is super helpful for getting them there.

Source: focus group transcript




And for knowing if you were doing it, right? And so maybe some different languaging from you about like this is about you figuring out how you can get your students to do the thing that you want; to make it less frustrating for you. So they're not writing terrible papers and they're not turning in posters with no citations, right?

Source: focus group transcript



But I think because we were thinking about it for our own work we probably did tend to talk about it more where they were crossovers you know and what we were doing or sharing what we were doing. That opened up the space for that.

Source: focus group transcript




We need some champions of the process and some mentoring but also the cultural expectation that we faculty are cultivating our craft in a meaningful and ongoing way.

Source: Faculty assessment inventory post open ended questions




but a sincere look at how our students learn best what we have decided they will know - how do we support and engage them in getting to the stage?

Source: Faculty assessment inventory post open ended questions




I want to keep adding more pieces of assessment like reading comprehension, theoretical understanding and application - at this point I see assessment as the opportunity to think more intentionally about how do




I support students in understanding, articulating and applying what they learn - the opportunity is to take this on in small bites rather than some huge overhaul of my all courses.

Source: Faculty assessment inventory post open ended questions




Knowing that we want students to graduate with certain skills and knowledge has led to us communicating more and more frequently about both the goals and the sorts of assessments we are doing.

Source: Faculty assessment inventory post open ended questions




I beleive we need as a school to set the tone of expectation of cultivating the craft of teaching in an ongoing and significant way - even for very experienced faculty.

Source: Faculty assessment inventory post open ended questions



These conversations also allow us to share ideas, brainstorm, and troubleshoot, resulting in richer and better teaching.


Source: Faculty assessment inventory pre ended questions



People REALLY care about student success here, and integrating assessment with early warning grades/academic alerts; connecting assessment to understanding how students learn and improving student learning; etc. would be very beneficial to faculty and tap into their deep motivation and care for students.

Source: Faculty assessment inventory pre ended questions

Course Development




need to look at the syllabus to see what's next you know but this is sort of building in room like what's going to help them succeed at this assignment and thinking about a little thing we could do for 20 minutes and it went really well so the proof will be in the assignments but like all of the things I wanted them to get out of the activity they nailed.

Source: focus group transcript




I still feel like I can do this again I'll just do it a different way

Source: focus group transcript




Well I'm thinking about it not as what aren't you assessing in your class but thinking about it as what aren't students doing in your class that you want them to be. Like in my class, students weren't understanding how to cite their sources because they were like this is a graphic design class citing sources is stupid. And I was like yeah but you can't just have pictures. You didn't take them.

Source: focus group transcript




And so my writing for media students have an interview assignment coming up so I thought back like what drives me nuts when I read this assignment. I developed an in class activity that allowed them to move through the sort of guideposts of the assignment together and then reflect back as a group.

Source: focus group transcript




Instead of having to just restructure the whole final assignment, I found ways working with you to add in very small ways for them to practice doing what I wanted throughout the entire second half of the semester. This semester even we started the first day to start to think differently throughout the course and it's made a really big difference in the type of work that they're doing and how they are approaching the assignments. I'm really excited to see their final projects this semester because the final projects were much better last semester and we only started with the intervention like with a third of the semester to go.

Source: focus group transcript



My courses are more goal oriented and my classroom practices are, frankly, more flexible because I've developed more and more meaningful touch points for students so that I can assess where they are at in comparison to the course, department and school outcomes.


Source: Faculty assessment inventory post open ended questions



I have become far more intentional in thinking about the WHAT of my courses - what do I want students to know and understand and be able to do by the end of a course.


Source: Faculty assessment inventory pre ended questions

Deterrents



Like I did an exam and one class scored eight points better on average than the other one. It's like I did nothing different I did absolutely nothing different so when I assess this one versus I assess this one, what do I do?

Source: focus group transcript




is like I wouldn't have thought to do this two years ago when my documentary class was incredibly engaged when I would ask their feedback and what their hands would go all over the place. So I was like oh they are connecting so I wouldn't have done that.

Source: focus group transcript




But I wouldn't call it assessment at the beginning.


Source: focus group transcript




Because that's going to make people think rubrics immediately.
Source: focus group transcript




Right and you're going to have to do a lot of work to overcome it if you start out with that word.
Source: focus group transcript



It's like no. I could see why people think that but it's like it really is there to help everybody and I think that's a barrier is some people are always going to hate it no matter what. But I do get like sometimes it does feel restrictive like with the core stuff that that her committee put together.
Source: focus group transcript




Faculty attitudes (about workload) and fears (about academic freedom and a (seeming) quantitative approach to qualitative work).
Source: Faculty assessment inventory pre ended questions




The learning management system is just not built for this sort of assessment, and it's difficult to get it to do what I really want it to. I can FORCE it to do some things and make workarounds for others, but it's just not automated and intuitive like other LMSes I've used, which is frustrating.
Source: Faculty assessment inventory pre ended questions


Reflection




So I have a lot of experience in assessment and a lot of training in assessment. And I'm very curious and I'm always reading and learning and researching more about assessment, which helps me to get better at it. And also helps me to understand how far I have still to go.
Source: focus group transcript




I don't think I'll ever get to 10 because I know that there are still so many more things to do.
Source: focus group transcript




But also I just see that it's an 8 because I want to broaden how I'm applying these things and I want to broaden across my classes. So I just think I'm a good teacher. I mean I'm confident in my teaching but I think this is made my teaching much more intentional.
Source: focus group transcript




And I don't think I would have thought of that if we if we hadn't been doing this because it was like you do things kind of spontaneously and then when you see that there's a structure that exists that you're actually doing –
Source: focus group transcript




And having specific times to say OK every two weeks I'm going to check in with myself or check in with somebody else on how this process is going and if there's anything I need to tweak that is very helpful.
Source: focus group transcript




And so I think I've built into my syllabi some room for myself.
Source: focus group transcript




And so I wouldn't have done that before; I wouldn't have done that before this process.
Source: focus group transcript



Yeah we had some accountability with you. We like this, we're learning from this but are we now going to have an assessment conversation every month?
Source: focus group transcript




But I learned from that like how might I introduce what I was trying to introduce differently so it was super helpful in that way.
Source: focus group transcript




So [faculty name]'s like introducing it and telling them before they even get to it like you know you might hem and how about this class but look at how it's going to benefit you in your career, outside of your career, which is awesome, I think too. Which is something like we didn't really talk about with the assessment but it's been something I think that's definitely been a result of this project too.
Source: focus group transcript




It felt more doable to me if I could just look at one or two things.
Source: focus group transcript



But I think because we were thinking about it for our own work we probably did tend to talk about it more where they were crossovers you know and what we were doing or sharing what we were doing. That opened up the space for that.
Source: focus group transcript




So I picked 6 because I don't necessarily love it. I also don't hate it but my understanding and appreciation for its value pushes it to the to the positive




side as opposed to negative side. But I do think there's that thing of it would be so much easier if we didn't have to do it.

Source: focus group transcript




It's how I definitely see that it's helpful. I see how it can be helpful. I just put I didn't give it a 10 because I don't like the end of the year report we have to write up and the only reason I don't like it is because it's just extra work to do.

Source: focus group transcript




To me it has made it easier because I'm just like "export." And I tried this and this is what happened and it went well or did then here's what I would have all the end so to me it's made it easier than sort of like yeah it's May.

Source: focus group transcript




I like that it there's there is a goal that I know actually pay attention to in a way that I feel like it is more meaningful than it was... I literally never looked at SLO ever after I wrote on my syllabus before probably last year. I make them up...

Source: focus group transcript




I am a new enough teacher still that I won't say my teaching has been transformed but - I think the small, incremental tests of student outcomes have made a huge difference to my teaching. I haven't had to upend the apple cart. Rather - I have been able to work backwards from outcomes to strategies for teaching and assessment. My courses are more goal oriented and my classroom practices are, frankly, more flexible because I've developed more and more meaningful touch points for students so that I can assess where they are at in comparison to the course, department and school outcomes.

Source: Faculty assessment inventory post open ended questions




It has encouraged me to think more deeply about how I know what I think I know in my classes (i.e., the students do understand some theory or concept).

Source: Faculty assessment inventory post open ended questions




One thing this process has prompted me to do is to develop clearer and more measurable course outcomes. I rarely referred to outcomes listed on my syllabi before coming here. I want to keep adding more pieces of assessment like reading comprehension, theoretical understanding and application - at this point I see assessment as the opportunity to think more intentionally about how do I support students in understanding, articulating and applying what they learn - the opportunity is to take this on in small bites rather than some huge overhaul of my all courses. I'm a good teacher, at least according to my evals, but this has helped me to be way more




intentional about understanding what my students exit from an assignment, module or even the class with.

Source: Faculty assessment inventory post open ended questions




I want to evaluate fairly, I want to be core and mission focused in my teaching, and I want students to build upon their skills and knowledge in course sequences - I believe learning more about how to apply assessment tools will help me continue to move toward these goals.

Source: Faculty assessment inventory pre ended questions



This helps me to interpret the information in a consistent and productive manner to immediately improve and adapt for the next semester or even half-semester (depending on the change & assessment cycle).


Source: Faculty assessment inventory pre ended questions



I know how to make assessment really really useful and convenient to instructors and administrators. I really want to learn how to make it more useful to students.


Source: Faculty assessment inventory pre ended questions

Perspective




I feel pretty confident with all the training we've had over the last couple years and then especially working with you and all the different opportunities for like learning about assessment and how that looks and doing assessment too.

Source: focus group transcript




This process has been happening since I've been here but I've only seen us get better over the course of my three years here. I think there's a huge amount of promise there.

Source: focus group transcript




A lot of the feedback I heard at one of the sessions was “these are great but how are we going to assess this?” and I thought well that should make all of you proud because that's what we're thinking about. But that wasn't viewed as a negative thing it was just like we love these [new SLOs] but we're thinking down the road when were asked to assess them and so I think that that's that moment when it feels restrictive because I think on their surface everyone's like we like these, we want these to say the same, we don't want to change them.

Source: focus group transcript




But again we're so new at it you know and we're still so new as a as a team and I I think that we are getting better and if I were to fill this out five years




ago it would not have been an 8 it would have been a 4 it would have been a 3 because I didn't feel like it was a unit. I didn't feel that it was cohesive. I didn't feel that we had the training. I didn't feel we had the advice so I do think that we're at 8 now. We could still get better.

Source: focus group transcript




is like I wouldn't have thought to do this two years ago when my documentary class was incredibly engaged when I would ask their feedback and what their hands would go all over the place. So I was like oh they are connecting so I wouldn't have done that.

Source: focus group transcript




So I don't know that I would have done that I would have just said here is the Farrington 87 steps to your assignment.

Source: focus group transcript




I'm doing it but it just started with these just just pick one thing in one class that you want to focus on. And that felt and then I just started thinking that way across other things, assignments in other classes.

Source: focus group transcript




It goes better when it is 1) intentional 2) structured 3) scheduled. The small experiment cycle in conjunction with bi-weekly check-ins we used was a great framework to create all three conditions.

Source: Faculty assessment inventory post open ended questions




It seems as though things have changed, but not long ago I felt that there was some anxiety surrounding assessment. I also think that not fully understanding the benefits of assessment or just doing assessment to get it completed, can be a barrier to really embracing and using assessment effectively.

Source: Faculty assessment inventory pre ended questions




Assessment learning opportunities ~ like the workshops and gatherings we've had over the past year seem to be very helpful.

Source: Faculty assessment inventory pre ended questions



But I think the faculty are overall doing a good job of being on board with assessment and integrating it into their courses, which is not the culture at other institutions, so that's a major barrier we don't have as much!


Source: Faculty assessment inventory pre ended questions



I took a doctoral course in it and worked as an assessment director for a couple of years, so I know a fair bit, but it's not my main area, so I'm still learning!


Source: Faculty assessment inventory pre ended questions

Paths Forward for Assessment




I can see us doing this again like with another SLO. And continuing to to do this type of assessment across like different areas of like interest to us is as a department.

Source: focus group transcript




Then I gave a formula as my answer which was experience + training + curiosity.

Source: focus group transcript




And I don't think I would have thought of that if we if we hadn't been doing this because it was like you do things kind of spontaneously and then when you see that there's a structure that exists that you're actually doing –

Source: focus group transcript




Oh what I just did is actually a thing and what you did was you (Julia) said this is a thing. You did this. You did this without knowing it and then once you realize that it's a thing that you do without knowing it then you start to look for ways to keep doing it.

Source: focus group transcript




I'm foreseeing a bad future. But I'm going to try to correct that before I get there.

Source: focus group transcript




And having that kind of structure for teaching ongoing and not just at the end of the semester – OK I'm exhausted and laying on the floor – uh what should I change the next time I teach this class?

Source: focus group transcript




My assessment for this [project] kind of didn't work, but I learned through it too. Yeah I learned that like what I was trying to do was kind of put a square into like what is that like a round circle.

Source: focus group transcript




But I learned from that like how might I introduce what I was trying to introduce differently so it was super helpful in that way.


Source: focus group transcript




I also think I also think there's a mindset, the mindset about assessment is the you know if not the largest certainly one of the largest obstacles because of preconceived ideas about what it does or doesn't entail. I think that that I don't know whether that's in the consultation that happens and you show




people it's not this or it is that; it's not throw the baby out with the bathwater. I think that's a huge obstacle.
Source: focus group transcript




And I think the way we did it was really...they way you're having us doing right? They way we're focusing on an SLO. We're each talking about how a class we, you know, maybe what we would like to work on for this SLO.
Source: focus group transcript




Because you met with us so intensely that you could never replicate that but if you're like OK in meetings one through three if I could cover that in a video and a guide and a website I only have to meet with people once. If it was a workshop in August you come to the faculty workshop or something like that and introduce it you've got all of us.
Source: focus group transcript




And like explaining this process as OK what are you having trouble getting students to do in your class that you really want them to do, this is a process to help make small changes to get your students there, right? And maybe thinking about it helping people to think about it that way rather than thinking about it as assessment or at least like explaining it as both.
Source: focus group transcript



I think the big one that we talked about was the one I did my TV class was an assignment that was near the middle and then I saw its value and it's like what it meant to them actually should be the first thing I do.
Source: focus group transcript




I'd like to do a bit more informal assessment or small experiments to better understand the effectiveness of some of the student assignments in class. I also think it would be interesting to look across particular components of our classes to better understand transfer ~ like, assessing their understanding of media effects theories, for example.
Source: Faculty assessment inventory pre ended questions



I've learned a lot more about our departmental assessment - thinking about assessment as a unit or department, rather than an individual faculty member.
Source: Faculty assessment inventory pre ended questions

Preconceived Notions



I also think I also think there's a mindset, the mindset about assessment is the you know if not the largest certainly one of the largest obstacles because of preconceived ideas about what it does or doesn't entail.

Source: focus group transcript

It's like no. I could see why people think that but it's like it really is there to help everybody and I think that's a barrier is some people are always going to hate it no matter what.

Source: focus group transcript

Right? But I think you hit exactly on the challenges that I often face. Assessment is mistaken sometimes for just that – how do I help my students get there? How do I help them write that better paper? How do I help them know that that citation is important or you know what I mean? And so...

Source: focus group transcript

And so maybe some different languaging from you about like this is about you figuring out how you can get your students to do the thing that you want

Source: focus group transcript

But we now have to think about what it looks like in a spreadsheet and what it looks like in a report and when I read that language it doesn't feel like I could come up with an assignment or with a project that's to turn into that this fills this column, this fills that column and I think that's where it starts to feel restrictive. Because it becomes so formal and so a lot of it is just spontaneous seat of your pants and stuff.

Source: focus group transcript

In my opinion, assessment is primarily understood as a quantifiable objective not as a qualitative objective and it's making entrenched faculty twitchy that they may a) lose academic freedom and b) have to scientize stuff they perceive as not assessable.

Source: Faculty assessment inventory post open ended questions

I think we also need to show the way - show how seemingly unquantifiable stuff (philosophy, ethics, politics) - the big questions of humanity so important in a liberal arts education - can be assessed.

Source: Faculty assessment inventory post open ended questions

1. People don't have a good understanding of what it is, or good tool sets of techniques to use to effectively assess different types of material & learning;

Source: Faculty assessment inventory post open ended questions

a (seeming) quantitative approach to qualitative work).

Source: Faculty assessment inventory pre ended questions

Framework/Structure

I liked that framework that we've been talking about like and I think that would transfer nice to other departments choose a SLO like how did a class that you're teaching you know how does that support, you know, introduce it, reinforce it, or master it. That was a great exercise. I can see that being really helpful to every department.

Source: focus group transcript

What's one thing you'd like to do so this film project or this and so I think there's work that could be done to say like look we're not looking to force you into some structure right now but given this SLO for this year, this semester you know in your syllabus and for your department or the college, you know what's one project that you could think about a small change to that that would or something you could do that would help you to...

Source: focus group transcript

It felt more doable to me if I could just look at one or two things. If I could look at I have this problem my students are freaking out about this project you know so what's a thing I could do but then I started well what's a thing I could do next Tuesday, what's a thing and that kind of turned into a lot of a things. I've been adding. I've been putting into my rubrics you know the SLO then it's like "oh wait a minute, I can assess that." I just added like there's another line I'll just get them a point for it but then I've got data. They did excellent, they did well, they did so... I'm doing it but it just started with these just just pick one thing in one class that you want to focus on. And that felt and then I just started thinking that way across other things, assignments in other classes.

Source: focus group transcript

And like explaining this process as OK what are you having trouble getting students to do in your class that you really want them to do, this is a process to help make small changes to get your students there, right? And maybe thinking about it helping people to think about it that way rather than thinking about it as assessment or at least like explaining it as both.

Source: focus group transcript

That's what assessment is for, right, is for finding out that. But this cycle is super helpful for getting them there.

Source: focus group transcript

However in teaching I think again I don't want to say thrown to the wolves but I just felt like it's like you go do your thing in the classroom and so this is has given I like structure very much and so this has given me some structure and it's been fairly transformative. So to me it's made that end of the report way easier because now when I'm building my assignments I'm

noticing oh this is our core CLO this, this is our department this and I'm just plugging that in so I'm just I am just exporting to her [faculty name].
Source: focus group transcript

So that's why I like it. There's a structure and I like I like structure because it makes me feel like I have some modicum of control and then I have data. And now I have some data that I can make her look at.
Source: focus group transcript

And having that kind of structure for teaching ongoing and not just at the end of the semester
Source: focus group transcript

And I don't think I would have thought of that if we if we hadn't been doing this because it was like you do things kind of spontaneously and then when you see that there's a structure that exists that you're actually doing –
Source: focus group transcript

Oh what I just did is actually a thing and what you did was you (Julia) said this is a thing. You did this. You did this without knowing it and then once you realize that it's a thing that you do without knowing it then you start to look for ways to keep doing it.
Source: focus group transcript

It was just like now I have almost like a fall back for when something's not working.
Source: focus group transcript

I think what the small changes helped me do was to take a big problem that was happening at the end of class and think about ways to address it much earlier in the course and in a series of very small interventions.
Source: focus group transcript

The structure is helpful right because I think we tend to sort of do this in the back of our heads but having the structure to it. And having specific times to say OK every two weeks I'm going to check in with myself or check in with somebody else on how this process is going and if there's anything I need to tweak that is very helpful.
Source: focus group transcript

so even though I'm fly by the seat of the pants I have that little you know cycle [PDSA] on my desk like OK how can I help them succeed you know in the classroom you know how can I help them succeed with this assignment?
Source: focus group transcript

Yeah. I like that. I like the structure.
Source: focus group transcript

I think it did influence us a little bit in that conversation.
Source: focus group transcript

This collective effort means we are addressing a systemic problem in a systemic way, as a team, which benefits us all as faculty -- we each only need to make a small change for the curriculum to realign with our target outcomes and yet we see major results in all our classes -- and provides substantial benefits for students, who are getting coordinated reinforcement of material across their coursework.
Source: Faculty assessment inventory post open ended questions

During our project with Julia, we actively discussed these small experiments across our classes and how they might inform our department as a whole. I really enjoyed our discussions and learning about how others are assessing the same SLO in another class. I think that this experience will help to frame how we approach assessment in our department from here on out.
Source: Faculty assessment inventory post open ended questions

It goes better when it is 1) intentional 2) structured 3) scheduled. The small experiment cycle in conjunction with bi-weekly check-ins we used was a great framework to create all three conditions.
Source: Faculty assessment inventory post open ended questions


I'm a good teacher, at least according to my evals, but this has helped me to be way more intentional about understanding what my students exit from an assignment, module or even the class with.
Source: Faculty assessment inventory post open ended questions

small experiments (monitored by PDSA cycles),
Source: Faculty assessment inventory post open ended questions

One of the super fun things about this project has been getting to meet with Julia about the small experiments, and talking with my colleagues in my department about theirs.
Source: Faculty assessment inventory post open ended questions

I think the small, incremental tests of student outcomes have made a huge difference to my teaching.
Source: Faculty assessment inventory post open ended questions

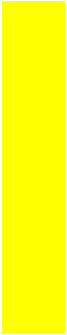
It is very helpful to tell a colleague that I am trying something new or different, then assess it, then discuss my observations, students'



observations, and the assessment results with my colleague. This helps me to interpret the information in a consistent and productive manner to immediately improve and adapt for the next semester or even half-semester (depending on the change & assessment cycle). These conversations also allow us to share ideas, brainstorm, and troubleshoot, resulting in richer and better teaching.

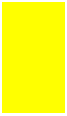
Source: Faculty assessment inventory pre ended questions

Curriculum Improvement



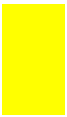
And we've talked about that too especially you know like that being one of the barriers with like research methods, why do I need that? So [faculty name]'s like introducing it and telling them before they even get to it like you know you might hear and how about this class but look at how it's going to benefit you in your career, outside of your career, which is awesome, I think too. Which is something like we didn't really talk about with the assessment but it's been something I think that's definitely been a result of this project too.

Source: focus group transcript



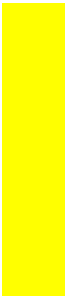
You did this in the last class and you are going to do something fancier in the next class.

Source: focus group transcript



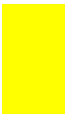
I like assessment because it helps me be a better teacher and because it helps us as a department create a better curriculum.

Source: focus group transcript



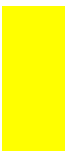
But like it helps the curriculum to work better. It helps us to identify weak spots like that students were getting to research methods not knowing how to do anything at all and you can't teach you everything in one semester, three completely different methodologies, how to do a lit review, how to read an article and write like you just can't. Realizing that and figuring out how to scaffold it throughout our curriculum like is a thing that we can learn from doing an overarching assessment.

Source: focus group transcript



we're having more, we as a team, are having more and more intentional conversations about our curriculum as a department.

Source: focus group transcript



Looking at the research methods class right and then how are the classes supporting that or introducing this? Where they should be practicing and then mastering at this level. I liked that framework that we've been talking about like and I think that would transfer nice to other departments choose

a SLO like how did a class that you're teaching you know how does that support, you know, introduce it, reinforce it, or master it.
Source: focus group transcript

Research is one of our outcomes. As a faculty we have broken research into component, assessable, parts that we believe will scaffold to deeper and more sophisticated research projects for juniors and seniors. Also, discussing what we are doing in terms of outcomes, I believe, is helping us to reinforce ideas and skills across classes.
Source: Faculty assessment inventory post open ended questions

we each only need to make a small change for the curriculum to realign with our target outcomes and yet we see major results in all our classes
Source: Faculty assessment inventory post open ended questions

It can be a great help to reorganizing curriculum or a major.
Source: Faculty assessment inventory post open ended questions

It has encouraged me to think more deeply about how I know what I think I know in my classes (i.e., the students do understand some theory or concept).
Source: Faculty assessment inventory post open ended questions


Assessment will help us to scaffold major and minor programming more intentionally by assessing both skills and knowledge.
Source: Faculty assessment inventory pre ended questions

I also think it would be interesting to look across particular components of our classes to better understand transfer ~ like, assessing their understanding of media effects theories, for example.
Source: Faculty assessment inventory pre ended questions

Compliance Mindset


If somebody came in tomorrow and said guess what we don't have to assess ever again I don't think anybody would say but wait it's so valuable; we'd be like thank God.
Source: focus group transcript

It just wouldn't appear in the ways that we're doing it now so that's why that thing is like whenever we're doing all this stuff with Middle States and we're doing stuff with the guides and all the meetings we went and that W&J thing we went to was like I get why we're doing this. And I'm not gonna be the squeaky wheel you know I mean but that's why I'm a 6.
Source: focus group transcript




It's like when I do my syllabi its there, it's like check, check, check in the words. I can use these words like it it's one of those things like I put for this my the attitude towards SLO it's like I get it I understand it but it can sometimes feel restrictive because you look at something and say here are the pre- determined words that work.

Source: focus group transcript




So I picked 6 because I don't necessarily love it. I also don't hate it but my understanding and appreciation for its value pushes it to the to the positive side as opposed to negative side. But I do think there's that thing of it would be so much easier if we didn't have to do it.

Source: focus group transcript




No do well on anything else but they are now introduced to a new avenue that doesn't find its way in here. So that's what frees it up where it's like you're 18 students. You all have different outcomes. You all have different objectives and I don't have to write down anything. You know it's just you guys are the outcomes. That's what I mean if someone said we'd have to do it anymore but I'm a 6.

Source: focus group transcript



but again it's one of those things where it's like you got to take the extra time to like write this up. You know what I mean? But I definitely like it I think otherwise the assessment doesn't take much time out of anything that I'm doing you know it's just that final report.

Source: focus group transcript




I would write things at the end of the semester but I never did anything during the semester to attend to them

Source: focus group transcript



I wouldn't even talk about in my syllabus so you guys can read these.


Source: focus group transcript



I also think that not fully understanding the benefits of assessment or just doing assessment to get it completed, can be a barrier to really embracing and using assessment effectively.

Source: Faculty assessment inventory pre ended questions

Suggestions for Future



That was a great exercise. I can see that being really helpful to every department.

Source: focus group transcript

I think that if you use this as a as a pilot template for how you would scale it I think that some sort of documentation or portal page or website or you know or video or something that that can be disseminated broadly. So you don't have to spend so much time with people.

Source: focus group transcript

I beleive we need as a school to set the tone of expectation of cultivating the craft of teaching in an ongoing and significant way - even for very experienced faculty. The world is changing and our students have different needs than they did a decade ago and will face a different set of challenges and needs a decade from not. Some faculty seem very static in their approach rather than modeling being lifelong learners. There is a certain amount of hubris that advanced knowledge and degree equates to the ability to make it meaningful to an 18 year old. I think we also need to show the way - show how seemingly unquantifiable stuff (philosophy, ethics, politics) - the big questions of humanity so important in a liberal arts education - can be assessed.

Source: Faculty assessment inventory post open ended questions

I think if faculty are continually asked to spend more time on assessment or are asked to serve on assessment committees there should be some type of compensation. That may help increase engagement.

Source: Faculty assessment inventory post open ended questions

I think as a teaching college, this could be even more overt in the faculty handbook than it is - (okay, that would cause a lot of drama but if we are a teaching college, shouldn't our methods and practices be open to improvement - not the tail wagging the dog but a sincere look at how our students learn best what we have decided they will know - how do we support and engage them in getting to the stage?

Source: Faculty assessment inventory post open ended questions

There are so many cool things we are doing in our classrooms, and so few spaces in which to discuss & learn about them!

Source: Faculty assessment inventory post open ended questions

Collaboration and communication with peers/other faculty. Campus leaders in assessment working with faculty one-on-one or working with a department on assessment ~ like what Julia has done with the communication department.

Source: Faculty assessment inventory post open ended questions

It goes better when it is 1) intentional 2) structured 3) scheduled. The small experiment cycle in conjunction with bi-weekly check-ins we used was a great framework to create all three conditions.




Source: Faculty assessment inventory post open ended questions



I'd like to more directly involve students -- post-course interviews or focus groups, perhaps.


Source: Faculty assessment inventory post open ended questions



Assessment using Schoology and any other ways I can improve my work doing assessment.


Source: Faculty assessment inventory post open ended questions

Time Consuming



Yeah it's a school with a huge expectation of our time with our students not necessarily class related at all so that's it yeah, it's a lot.

Source: focus group transcript




Yeah. I like that. I like the structure. But I wonder how much more time we could spend than this. We have all these you know grandiose ideas about changing our curriculum and how we assess that but I guess it's just knowing it'll take us time to do it too.

Source: focus group transcript




I don't like the end of the year report we have to write up and the only reason I don't like it is because it's just extra work to do.

Source: focus group transcript




but again it's one of those things where it's like you got to take the extra time to like write this up.

Source: focus group transcript



I think the challenges are time. I think the challenges are always time here. We're you know something else that we need to do or spending more time on something that we're already spending some time on but spending more time on that it just seems like it we have to find that time somewhere else. Maybe I don't spend so much time on my research or maybe I don't prep this class. Yeah so I feel like that's one of the biggest challenges is you know how much we can work as a department to do departmental assessment compared to what we really want to do what's realistic.

Source: focus group transcript



And in a career where you're juggling so many different things from committee work to teaching to lesson plans to research to working with students on independent studies you know all these things it's you know. That's the challenge.

Source: focus group transcript

Yeah so I see that as the biggest challenge right now because there's like you said earlier like [faculty name] said earlier there's been a lot of opportunities around campus. We've had a lot of resources and you know people who are resources that are you know that are here to help us and workshops and things like that. I think it is just kind of carving out the time to do it collaboratively. Even sometimes myself doing it for my class.
Source: focus group transcript

2. People are busy & it's not on fire so it gets lost in the shuffle
Source: Faculty assessment inventory post open ended questions

I think if faculty are continually asked to spend more time on assessment or are asked to serve on assessment committees there should be some type of compensation.
Source: Faculty assessment inventory post open ended questions

Faculty attitudes (about workload)
Source: Faculty assessment inventory pre ended questions

It's a big process (work) but I also do not feel pressure from administration
Source: Faculty assessment inventory pre ended questions

Limiting Academic Freedom

Well that's why I said I think it's sometimes it feels it does feel restrictive.
Source: focus group transcript

So that's the part of it where I don't think that's a restriction of it but it also is a limitation of it that there are things that I feel are important and are the things that I want you to get out of this but they could get something totally different out of it. And it might not be reflected in their grade, it might not be reflected...
Source: focus group transcript

It's like when I do my syllabi its there, it's like check, check, check in the words. I can use these words like it's one of those things like I put for this my the attitude towards SLO it's like I get it I understand it but it can sometimes feel restrictive because you look at something and say here are the pre- determined words that work. But that's that is where some people start to bark this is this is limiting me in the classroom like this is this is inhibiting my freedom.
Source: focus group transcript

lose academic freedom



Source: Faculty assessment inventory post open ended questions



fears (about academic freedom

Source: Faculty assessment inventory pre ended questions

Appendix G Write-Down Exercises

On a scale of 1 (extremely low) to 10 (extremely high), circle your confidence level toward executing student learning outcome assessment in your classroom.

1	2	3	4	5	6	7	8	9	10
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Give a brief description indicating the reasons why you feel this way.

On a scale of 1 (extremely low) to 10 (extremely high), circle your confidence level toward executing student learning outcome assessment at a department level.

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----



Give a brief description indicating the reasons why you feel this way.

On a scale of 1 (hate it) to 10 (love it), circle your attitude toward student learning outcome assessment.



1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----



Give a brief description indicating the reasons why you feel this way.

On a scale of 1 (absolutely has no promise) to 10 (absolutely has promise), circle your level of confidence that offering assessment consultations in this format will help faculty across the college improve confidence and execution of good student learning outcome assessment – individually, departmentally and institutionally.

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

Give a brief description indicating the reasons why you feel this way.

Figure 22. Write-Down Exercises

Appendix H Definition of Tools Used

Affinity Diagram – a method which can help you gather large amounts of data and organize them into groups or themes based on their relationships. The affinity process is great for grouping data gathered during research or ideas generated during brainstorming sessions (Dam & Siang, n.d.)

Driver Diagram – a tool that visually represents a group's working theory of practice improvement. The driver diagram creates a common language and coordinates the effort among the many different individuals joined together in solving a shared problem (Bryk et al., 2017, p. 199)

Force Field Analysis – is used to distinguish which factors within a situation or organization drive a person towards or away from a desired state, and which oppose the driving forces. These can be analyzed in order to inform decisions that will make change more acceptable (Lewin, 1951).

PDSA (Plan-Do-Study-Act) – a pragmatic scientific method for iterative testing of changes in complex systems. Each cycle is essentially a mini-experiment in which observed outcomes are compared to predictions and discrepancies between the two become a major source of learning (Bryk et al., 2017, p. 200)

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